BY ORDER OF THE
509TH BOMB WING COMMANDER

WHITEMAN AIR FORCE BASE
INSTRUCTION 15-111

30 MAY 2012

Weather

BASE WEATHER SUPPORT DOCUMENT

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This instruction implements Air Force Policy Directive (AFPD) 15-1, *Air Force Weather Operations* and provides guidance on Air Force Occupational Safety and Health Standard (AFOSH) 91-501, *Air Force Consolidated Occupations Safety Standard* and Air Force Instruction (AFI) 15-128, *Air Force Weather Roles and Responsibilities*. It establishes the responsibilities and procedures for providing and using weather services at Whiteman Air Force Base (AFB). It provides general information on weather services including weather observations and forecasts, weather warnings and advisories, dissemination of weather information, and reciprocal support. This instruction applies to all Whiteman AFB personnel and tenant units. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records* and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims**/.

1. General Information.

1.1. General.

1.1.1. The 509th Operations Support Squadron Weather Flight (509 OSS/OSW) and the 26th Operational Weather Squadron (26 OWS) are the official weather information agencies for and provide weather services to the 509th Bomb Wing (509 BW) and other units assigned to Whiteman AFB. Basic concepts and procedures are outlined in Air Force and major command (MAJCOM) directives.

1.1.2. This instruction establishes requirements and procedures for weather support, which must be coordinated at the local level to meet mission needs. It consolidates weather support requirements and procedures for peacetime operations and eliminates the need for individual written agreements between the weather unit and supported operations. It does not cover weather support procedures for emergency war operations or certain other special operations or procedures. These are covered in applicable plans/regulations.

1.2. **Designators.** All weather products disseminated by or for Whiteman AFB will use KSZL as the International Civil Aviation Organization (ICAO) location indicator.

1.3. **Weather Operations.**

1.3.1. Operational Weather Squadrons are the authoritative source for environmental characterization in their respective AORs. The 26 OWS at Barksdale AFB, LA is responsible for collection of atmospheric data/information, analysis and prediction of the atmosphere, and generation of products based on this analysis and prediction for use by Weather Flights (WF) and other agencies in the southeastern CONUS. The 26 OWS performs meteorological watch (METWATCH) for supported installations and produces, disseminates, and amends Terminal Aerodrome Forecasts (TAFs).

1.3.2. The primary purpose of the WF is to facilitate exploitation of the environment through integration into every phase of operations-planning and execution process. The WF assesses the mission environment to determine environmental threats, and where possible, find alternatives to mitigate those threats. The WF supports mission types including but not limited to: aviation and ground operations conducted at home station and deployed locations. The WF is also responsible to support other parent/host unit operations where success may depend on mitigation of environmental threats. The WF functions include staff integration, mission integration, and airfield support. The 26 OWS is located: 66 Kenney Ave, Barksdale AFB, Louisiana 71110, Building 5576.

1.3.2.1. Whiteman AFB installation data sheet and Memorandum of Agreement, 15-28, between 509 OSS/OSW and 26 OWS contains reciprocal weather information, products and services identifying support for Whiteman AFB operations.

1.4. **Assumptions.** Adequate resources and communications will be available to execute this instruction and sufficient weather intelligence will be available from various sources on which to base weather operations and production.

1.5. **Shortfalls and Limiting Factors.** The official observation point has blocked/limited visibility to the southwest quadrant due to its position in reference to Building 35. There are no limitations for airfield sensors.

1.6. **Duty Priorities.** All base weather station tasks cannot be accomplished simultaneously. Therefore, duty priorities are established to ensure tasks are accomplished in order of relative importance and publicized to avoid misunderstanding among supported agencies. Duty priorities will ensure timely response to situations under normal conditions. However, the list will not replace good judgment. The weather technician may deviate in the best interest of flight safety and/or protection of personnel or property. The weather technician will use the following priority list as a guide for accomplishing duties.

1.6.1. Complete Emergency War Order (EWO) Tasking.

1.6.2. Execute Base Weather Station Evacuation.

1.6.3. Respond to Aircraft/Ground Emergencies (e.g. Hotel Conferences/Toxic Corridors).

1.6.4. Respond to Pilot-to-Metro Service (PMSV) Contacts.

1.6.5. Disseminate Observed Warnings/Advisories. (Forecast Watches/Warnings/Advisories during OWS back-up).

1.6.6. Provide Weather Information to the Supervisor-of-Flying (SOF).

1.6.7. Perform Severe Weather Action Program (SWAP) Procedures.

1.6.8. Augment AN/FMQ-19 Observations for Mandatory Elements.

1.6.9. Provide “Eyes Forward” / Collaborate with 26 OWS.

1.6.10. Produce and Disseminate Mission Execution Forecasts (MEF).

1.6.11. Relay Urgent PIREPs and Special AIREPs to 26 OWS.

1.6.12. Disseminate PIREPs/AIREPs.

1.6.13. Perform MISSIONWATCH Activities.

1.6.14. Provide Weather Briefings.

1.6.15. Conduct Weather Function Training.

1.6.16. Accomplish Administrative Tasks.

1.7. **Geographic Area of Responsibility**. The area of responsibility for products and services provided by the WF is the terminal area, which for the WF is the area located within a 5 nautical mile radius around the center of the Whiteman airfield complex. The WF will

also MISSIONWATCH all areas and routes in which Whiteman flying units are conducting operations.

1.8. **Operating Hours and Contact Information.**

1.8.1. Staff services are available from 0730CT to 1630CT, Monday through Friday, except federal holidays and wing down days.

1.8.2. Weather technicians are available in the base weather station (BWS) or on stand-by to provide all services during airfield operating hours. Normal weather station operating hours are Monday (0000L) through Friday (2300L) and Saturday and Sunday (0700-1700L) with stand-by personnel available 24 hours a day. Current operating hours are subject to change and are available through Flight Information Publication booklets and Notice to Airmen messages. The BWS will open a minimum of 1 hour prior to the airfield opening.

1.8.3. The WF technician can be contacted at DSN 975-3061/3062 or Comm (660) 687-3061/3062. The WF Superintendent can be reached at DSN 975-6117 and the WF Commander can be reached at Defense Switch Network (DSN) 975-6120.

1.8.4. The 26 OWS is open 24-hours a day, 7 days a week. They are staffed with qualified weather forecasters and can be reached at DSN 331-2615.

1.9. **Back-up Weather Support**. If weather operations at 26 OWS are interrupted (e.g., power outage, natural disaster), the 26 OWS will contact the WF. When the interruption in weather operations at the 26 OWS is expected to be 72 hours or less, responsibility for local TAF and weather warning/watch/advisory (WWA) will transfer to the WF. If the interruption in weather operations is expected to last more than 72 hours, the 26 OWS will evaluate the situation and determine if augmentation is necessary.

1.9.1. If interruption to OWS service occurs during WF closure, the WF Commander or Superintendent will determine whether or not the standby WF forecaster needs to be recalled or if METWATCH can be conducted from standby location.

1.10. **Base Weather Station Evacuation**. If the WF is required to evacuate the BWS, they will relocate to the alternate operating location (AOL), which is at 442d Fighter Wing Headquarters, building 48, room 122, (AOL contact phone numbers DSN 975-3827/3828 or COMM 660-687-3827/3828) . Prior to departure and with time and safety considered, the WF will notify 509 BW Command Post, Tower, SOF (509th and 303rd), RAPCON, and 26 OWS upon evacuation of the (BWS). Upon resumption of weather support at the primary or alternate location, the WF will contact all aforementioned agencies.

1.10.1. AOL Limitations. If AN/FMQ-19 back-up needs to be performed with tactical equipment (i.e. Kestrel) wind, ALSTG and station pressure values will be estimated. There are no visibility obstructions at the AOL observation point.

1.10.2. The 26 OWS will assume the following duties until the WF resumes operations:

1.10.2.1. Perform METWATCH and MISSIONWATCH for flying operations and issue all terminal and flying area weather WWAs to the best of their ability.

1.10.2.2. Mission Execution Forecast (MEF). If the WF is unable to produce flying MEFs from the alternate site, the 26 OWS will produce and update 175-1s for

Whiteman flying customers. The MEFs will be posted on the 26 OWS website under the Unit Tailored Pages link, Flight Wx Brief, Retrieve Briefing link.

1.10.3. Upon arrival at Bldg 48, the WF will standup operations and notify 509 BW Command Post, Tower, SOF (509th and 303rd), RAPCON, 26 OWS, and all flying squadrons at Whiteman that they have resumed operations at the new site.

1.10.4. The weather technician will provide the following services from the primary AOL:

1.10.4.1. Monitor the FMQ-19 sensors via AFWS and augment if necessary. In case of a communication outage, the weather technician will take surface weather observations using the Kestrel and AF Form 3803, *Surface Weather Observations (METAR/SPECI)*. The primary observing point is located on the northeast corner of the roof of Bldg 48. They will disseminate observations by phone or email. An observation will be taken within 15 minutes of arriving at AOL if the FMQ-19 or JET are inoperable and weather conditions warrant. The first observation will at a minimum contain prevailing visibility, present weather and obscurations, sky condition, wind direction and speed (estimated if using Kestrel), temperature and dew point, and altimeter setting (estimated if using Kestrel).

1.10.4.2. Continue to issue and update MEFs if the capability exists. The Airfield MEF will continue to be updated on the WF webpage if possible. If the webpage is inaccessible, the MEF will be faxed or emailed to the flying squadrons.

1.10.4.3. Provide METWATCH for Whiteman AFB from the AOL. Weather WWAs may be disseminated by phone if the AFWS is non-operational.

1.10.4.4. Brief aircrews and MISSIONWATCH. Briefings will be conducted in-person at the new location, or by phone or fax.

1.10.5. PMSV radio support will not be available from the AOL. However, radio frequency 344.6 MHz will be monitored by ATC and the command post will forward phone patches as described in paragraph **7.6.6**.

1.10.6. Timeliness and accuracy of services provided from the AOL may suffer due to limited communications and use of back-up equipment.

1.11. **Air Force Weather System (AFWS).** The term AFWS is standard and used to identify the WF's primary weather data dissemination system on Whiteman AFB. All required agencies will maintain a user account through the 509 OSS/OSW program manager at DSN 975-3061. It is recommended that accounts be current and operational at all times to receive weather updates as they occur. The 26 OWS will issue weather WWAs via the Integrated Weather Warning Capability (IWWC) and disseminate them through the AFWS. Examples of products disseminated over the AFWS are in **Attachment 4**.

2. Airfield Services Element

2.1. **General.** Airfield services are actions taken by weather technicians pertaining to the Whiteman aerodrome (for WF purposes this is defined as the area within 5 nautical miles of the airfield's center) and/or the base as a whole. Examples include weather observations, TAF, Airfield MEF, PMSV, and meteorological condition watch. The observing function of

509 OSS/OSW, located in building 35, will maintain full operations while the airfield is open.

2.2. **Automated Surface Weather Observations.** As a routine airfield service, the WF records and disseminates an official weather observation (METAR) at a minimum of every hour at the top of each hour. Additionally Special (SPECI) observations are generated during increased weather activity. Special observation criteria is outlined in **Attachment 2**. METAR code is broken down in **Attachment 8** and examples are contained in **Attachment 4**.

2.2.1. AN/FMQ-19 AOS. The AN/FMQ-19 is an integrated system of multiple weather sensors and data automation components that continually measures environmental conditions to provide responsive, reliable, accurate, real-time weather information in support of flight operations. These measurements are processed to create properly formatted, fully automated observations that comply with applicable various reporting standards and protocols defined in the Federal Meteorological Handbook (FMH-1), the World Meteorological Organization (WMO), the Federal Aviation Administration (FAA), NWS and AFMAN 15-111, *Surface Weather Observations*.

2.2.2. Automated Meteorological Observing Station Operations. In the automated mode, the system continually senses and measures the atmosphere for the following weather parameters: wind, visibility, precipitation/obscurations, cloud height, sky cover, temperature, dew point, and altimeter.

2.2.3. Disseminating Automated Observations. AN/FMQ-19 automated observations will be disseminated through the AFWS communications interface. If the AFWS is inoperable, observations will be disseminated by phone to the tower/SOF. Examples of weather observations disseminated at Whiteman AFB can be found in **Attachment 4**.

2.3. **Supplementary Augmentation of AN/FMQ-19.** Augmentation is the process of having position-qualified weather technicians manually add or edit data to an observation generated by a properly sited AN/FMQ-19. The two augmentation processes used are *supplementing* and *back-up*. Supplementing is a method of manually adding meteorological information to an automated observation that is beyond the capabilities of the AN/FMQ-19 to detect and/or report. Back-up is the method of manually providing meteorological data and/or dissemination to an AN/FMQ-19 observation when the primary automated method is not operational or unavailable due to sensor and/or communication failure.

2.3.1. When supplementing the automated observing system, the weather technician must maintain situational awareness of current weather conditions and the system-generated observation. While some days may require more effort to maintain situational awareness than others, the system is set-up and designed to require minimal review. Mandatory supplementing of the AN/FMQ-19 by a certified weather technician must occur when any of the following are forecasted to occur or are observed from the airfield:

Table 2.1. Conditions for Mandatory AN/FMQ-19 Supplementing - Body of Report

1. Tornadoes (+FC), Funnel Clouds (FC), Waterspouts (+FC) (NOTE1).
2. Hail (GS (<1/4”) or GR (≥1/4”)) (Local warning criteria – Any hail)
3. Volcanic Ash (VA) is observed from the airfield.

4. Any weather element deemed operationally significant that is beyond the capabilities of the automated weather observing system (see table 2.3. for criteria).

Table 2.2. Conditions for Mandatory AN/FMQ-19 Supplementing – Remarks Report

1. Funnel Cloud (Tornadic Activity _B/E(hh)mm_Loc/DIR_(MOV)) (NOTE 1).
2. Snow Depth (only during airfield operating hours and if heavy snow warning has been issued and snowfall is occurring)

Note 1: The immediate reporting of funnel clouds takes precedent over any other phenomena.

2.4. **Back-up Augmentation of AN/FMQ-19.** Back-up (editing) is the process of providing meteorological data when the AN/FMQ-19 is unavailable, or when an element is unrepresentative and operationally significant. Back-up of the AN/FMQ-19 by the weather technician provides the minimum acceptable level of available data for meteorological operations and the support of aviation operations in the event of a partial or total AN/FMQ-19 failure.

2.4.1. To perform back-up duties, the weather technician must remain aware of current weather conditions and AN/FMQ-19 observations. In the case of conflicting responsibilities or tasks, the weather technician will use the ORM process and posted duty priorities to determine which takes precedence, with the highest priority being flight safety.

2.4.2. Back-up will occur when the airfield is open or when severe weather action procedures have been implemented during non-operational hours. All conditions in the main body of the observation will be backed-up to ensure availability and proper representation of actual meteorological conditions. Most automated, manual, plain language and additive data remarks will be backed-up. The complete list of back-up parameters is in AFMAN 15-111, **Attachment 3,** Table **A.3.1**. Required back-up remarks are included in Table **2.3** below.

Table 2.3. AN/FMQ-19 Remarks Required to be Backed-Up

Augmented Unit Indicator **(AO2A)**
Peak Wind **(PK_WND_dddff(f)/(hh)mm)**
Wind Shift **(WSHFT_(hh)mm)**
Variable Prevailing Visibility **(VIS_vnvnvnvnvnVvxvxvxvxvx)**
Lightning **(LTG[LOC])**
Beginning/Ending of Thunderstorms **(TSB(hh)mmE(hh)mm)**
Variable Ceiling Height (**CIG_$h_nh_nh_nVh_xh_xh_x$**)
Variable Sky Condition **(NsNsNs(hshshs)_V_NsNsNs) [Plain Language]**
Pressure Rising/Falling Rapidly **(PRESRR/PRESFR)**
Sea Level Pressure **(SLPppp)**
3- and 6-Hour Precipitation Amount **(6RRRR)**

RVRNO **(RVRNO)**
Maintenance Indicator **($)**

2.5. **Back-Up Surface Observing.** During complete FMQ-19 outages, weather personnel take official weather observations hourly and when certain special criteria are met (see **Attachment 2** for criteria.) The weather technician will relay all pertinent information, such as changing weather conditions, to 26 OWS as part of the "eyes forward" function (see paragraph **2.9**). Weather technicians take all observations IAW AFMAN 15-111 and AFMAN 15-129. The official point of observation for Whiteman AFB is located on the grassy area outside building 35 at the corner of Community Court and Flight Line Road.

2.5.1. When wind equipment is inoperative, the WF will notify the Control Tower and RAPCON that the winds will be estimated.

2.5.2. Basic Weather Watch (BWW). Weather personnel normally conduct a BWW from the BWS. Due to other duties, along with other restrictions such as a BWS design that does not allow a 360-degree view of the runway complex, etc., weather personnel cannot monitor the weather continuously and cannot be expected to detect and report all weather changes as they occur. In addition to taking and disseminating required observations, the BWW observing program includes minimum requirements to recheck weather conditions at intervals not to exceed 20 minutes since the last observation/recheck, to determine the need for a SPECI observation, when any of the following conditions are observed to be occurring or are forecast to occur within 1 hour:

2.5.2.1. Ceiling forms below or decreases to less than 1,500 feet.

2.5.2.2. Ceiling dissipates, or increases to equal or exceed 1,500 feet.

2.5.2.3. Visibility decreases to less than 3 miles.

2.5.2.4. Visibility increases to equal or exceed 3 miles.

2.5.2.5. Precipitation (any form).

2.5.2.6. Thunderstorms

2.5.2.7. Fog or Mist.

2.5.2.8. In addition to the above minimum requirements, weather personnel will remain alert for any other changes in weather conditions that will require a SPECI observation.

2.5.2.9. When a reliable source (ATC personnel, pilots, off-base law enforcement, 509th Security Forces Squadron (509 SFS), etc.) reports weather conditions different from the last report, weather personnel will recheck the weather and, if required, disseminate a new observation.

2.6. **Aircraft Mishap Procedures.** Augmented units will check the latest AN/FMQ-19 observation (i.e., METAR/SPECI/OMO (one minute observation)) and perform augmentation/back-up as required.

2.6.1. Because AN/FMQ-19 automatically prepares and archives an observation every minute, weather units are not required to include an aircraft mishap remark in the

observation. Dissemination is not required unless AN/FMQ-19 has generated a pending METAR or SPECI observation.

2.6.2. Augmented units will collect and save data related to an aircraft mishap according to instructions in AFMAN 15-129. Managers of automated units will retrieve the archived surface observation data from AN/FMQ-19 when required by the requesting agency.

2.7. **Hotel Conference.** 509th Bomb Wing Command Post (509 BW/CP) will initiate a warble tone across the BW/OG Net then an announcement of a Hotel Conference. After all members have been polled, and Spirit Control asks for weather, WF will verbally transmit the following in the order shown:

2.7.1. Ceiling/Visibility/Weather/RVR.

2.7.2. Temperature/Dew Point & Wind Direction/Speed/Gusts.

2.7.3. Any significant remarks.

2.7.4. Weather Warnings, Watches or Advisories in effect for SZL.

2.7.5. A brief one-hour forecast noting significant changes impacting the area.

2.8. **Cooperative Weather Watch (CWW).** A CWW is a program wherein qualified non-weather personnel assist weather technicians in monitoring the weather conditions. CWW assists in the reporting of weather conditions which could affect flight safety or which could be critical to the safety or efficiency of other local operations and resources. Since tower controllers have a complete 360-degree view of the airfield complex, a CWW agreement exists between ATC and the BWS. Assistance is provided IAW AFI 13-204V3, *Airfield Operations and Procedures and Programs*.

2.8.1. The WF will provide initial and if requested, assist in annual recertification weather training to all ATC controllers in support of the CWW and ATC Limited Observation programs. The WF will train all ATC personnel to take tower visibility measurements. In addition, ATC personnel will be trained to pass PIREP information.

2.8.2. When informed by ATC personnel of significant weather events (see Chapter 7, paragraph. **7.9.2.5**.), the WF weather technician will verify/validate weather conditions and disseminate appropriately as a local, special or within-the-hour observation. When the tower reports weather conditions different from the last disseminated observation, the weather technician will reevaluate the weather conditions. Based on reevaluation of the different weather conditions reported and local policy, the technician will:

2.8.2.1. Begin augmentation of AN/FMQ-19 and send SPECI observation if different conditions warrant immediate dissemination. **Note:** The WF will not include a tower visibility remark in automated or augmented observations.

2.8.2.2. Include the report of the differing conditions in the next METAR or SPECI observation if the different conditions alone do not warrant immediate dissemination.

2.9. **Eyes Forward.**

2.9.1. The WF integrates weather radar data, meteorological satellite imagery, lightning detection readouts, and non-standard weather data systems to create an integrated weather

picture and near-term trend forecast for the 26 OWS. The “eyes forward” function yields meaningful meteorological information not contained in coded observations to the OWS and is an integral part of the METWATCH for Whiteman AFB.

2.9.2. The WF will provide the "eyes forward" function by providing significant information to 26 OWS concerning local area weather patterns and un-forecasted changes. The WF will contact 26 OWS when:

2.9.2.1. Severe weather signatures on radar displays or METSAT imagery are identified that will affect the Whiteman AFB installation or mission.

2.9.2.2. Watch, warning and/or advisory criteria are occurring or forecast to occur and 26 OWS has yet to issue one. Additionally, when local mission-watch indicates a 26 OWS-issued watch, warning, and/or advisory is, or may become, unrepresentative of current or expected weather conditions. The WF will also ensure the 26 OWS receives severe weather reports in the area of concern received from local news media or unit/base personnel.

2.9.2.3. When local weather phenomena are forecast to occur (next 30 minutes) and will affect 26 OWS and WF products (i.e., TAFs and MEFs). The WF will also contact 26 OWS when significant forecast elements on 26 OWS products are not expected to occur. Communication is key to helping the 26 OWS technicians anticipate changes and subsequently adjust forecast products.

2.9.2.4. When all observed weather advisories and the observed weather warnings for lightning are issued.

2.9.2.5. When surface observations or other information (e.g., PIREPs) cause 26 OWS-issued TAFs for Whiteman AFB to be "out of category" or weather information indicates WF-issued MEFs will cross operational thresholds.

2.10. **Terminal Aerodrome Forecast (TAF).**

2.10.1. Dissemination. Weather technicians at the 26 OWS will prepare and disseminate a TAF via the AFWWS. Unless otherwise specified, forecast elements in the main body of the forecast text apply to the area within a 5 statue mile radius of the Whiteman AFB airfield complex. Issue times are driven by airfield operating hours/requirements and the OWS production cycle: during 24-hour operations TAFs are issued every eight hours; during periods of airfield closure/limited duty operations the initial TAF is issued at the standard TAF hour prior to airfield opening or upon request by the WF, then at the established routine production hours, valid at 1100Z, 1900Z and 0300Z. See **Attachment 8** for TAF code breakdown.

2.10.2. Amendment Criteria. Amendment criteria are listed in **Attachment 3** and are specified IAW AFMAN 15-129 and mutually agreed upon criteria specific to the mission needs of customers at Whiteman AFB.

2.11. **B-2 Engine Run Time (ERT).** Anytime the temperature is 43 degrees Fahrenheit or less the WF issues the ERT advisory and documents the ERT on the notification log and disseminates the current reading over the Motorola desk set (OG Net) until the advisory is cancelled. If 509 BW SOF (FOXTROT) or Operations Supervisor (Top 3/MADDOG) does not acknowledge receipt over the radio, they will be called by phone. Per AFI 11-2B-

2V3, *B-2--Operations Procedures*, WAFB Addendum A the WF will provide updates every 15 minutes, or less as needed, during periods of rapidly changing conditions. The information relayed will include current ERT (temperature/dew point) conditions and predicted ERT (temperature/dew point) conditions. ERT calculations of 60 minutes or less will require the WF to monitor temperature, dew point, and visibility at a minimum of every 15 minutes. See **Attachment 9** for Engine Induction Icing Ground Run Times.

2.11.1. Temperature and dew point data for ERT readings are obtained from the FMQ-19 (North runway) and three Weather Hawk Sensors (located on flight line). ERTs are determined based on the weather sensing device providing data which requires the lowest run time.

2.12. **Winter Weather.**

2.12.1. WF personnel will notify and keep the 509 OSS/OSA staff updated when any freezing precipitation or snow is expected at Whiteman AFB. During airfield management closure, the forecaster will contact the designated airfield staff member and 509th Civil Engineer Squadron (509 CES) snow control. During WF closure, snow control leaders will contact the 26 OWS for snowfall forecasts.

2.12.2. During the winter season the WF will provide the 509th Mission Support Group Commander (509 MSG/CC) (through the 509th Operations Support Squadron Commander (509 OSS/CC) the current weather conditions and the 6-, 12- and 24-hour forecasts. The on-duty forecaster will predict estimated snowfall and/or continuing hazardous weather conditions. Ref. WAFI 36-801.

3. Mission Services Element

3.1. **General.** Mission services are actions taken by weather technicians pertaining to the effective accomplishment of Whiteman's flying sorties (both training and operational). The WF will develop and maintain a Mission Execution Forecast Process (MEFP) that provides or arranges for flight weather services for aircrews departing Whiteman AFB. MEFs, the end result, are a weather information resource produced in a format agreed to by the user and tailored to meet specific mission requirements that are focused on the commander's needs and objectives, and can be integrated into the planning process early to successfully plan and execute military operations. Additionally, the WF will provide decision-grade information that clearly and concisely defines the environmental impacts to missions, platforms, weapon systems, targets, tactics, and mission timing.

3.2. **Flying Mission Execution Forecasts.**

3.2.1. **Flying MEFs**. The MEF acts as the official source of weather information for flying operations. They will be delivered in the format and at the time and place of the user's request following the guidelines and principles outlined within this instruction. Below are the types of Flying MEFs produced:

3.2.1.1. Verbal Brief. Aircrew members can choose to receive mission weather information verbally without the use of the hard copy MEF. In such cases, the WF will maintain a log recording information passed to the aircrew as well as the brief time and an aircrew member initials.

3.2.1.2. Whiteman "Flying MEF" Form Brief. This form is similar to the 175-1 weather brief. It is tailored to individual missions and is useful for aircrews (local or transient) flying one- or multi-stop missions with or without en route events (AR, Range, MOA, etc.) The WF will ensure these MEF briefings are available to aircrews as directed. Typically, B-2 aircrew briefs will be ready no later than (NLT) 3 hours prior to take-off. Other flying missions will be supplied briefs on an as-requested basis. **Attachment 14** provides an example of the Whiteman AFB Flying MEF.

3.2.1.3. Web-based Self Brief. The WF will maintain and provide access to Web-based weather information for use by aircrews (local and transient) while flight planning or when receiving execution weather briefs remotely by phone. The Airfield Operating MEF and B-2 Tomorrow's Planning MEF are examples that can be found on the WF's SharePoint Site.

3.2.2. **Special / Higher Headquarters Mission Briefings.** The WF will provide specific briefings for special or higher headquarters missions as directed by operations order, fragment order, message, etc. Aircrew and/or staff weather briefings will be presented in person by WF at the time and location desired by requester.

3.2.3. **Supervisor of Flying (SOF).** At the request of either the 509 BW SOF (FOXTROT) or the 442 FW/303 FS SOF, WF will verbally brief the local flying conditions, alternate base forecasts, and other weather data that may affect flying activities.

3.2.3.1. WF will provide an Airfield Operating MEF or verbal brief when requested by the 509 BW SOF and during the SOF assumption and change-over briefings.

3.2.3.2. 442 FW/303FS SOF can review/print the Airfield Operating MEF via the WF's SharePoint Site.

3.2.4. **Planning MEF**. The WF will provide a Planning MEF by 0500L (Monday-Friday mornings). Weekend duty forecasters will also be responsible for producing/posting the Planning MEF by 1000L (Saturday – Sunday) to support the next full day of Whiteman AFB flying. The PLANNING MEF will focus on the next day flying window (1100Z – 0500Z or 0600L – 2400L). **Attachment 12** provides an example of the Planning MEF. Briefings include:

3.2.4.1. Hazards and flight level winds.

3.2.4.2. Surface forecast for target areas and other areas of interest.

3.2.4.3. Forecasts for takeoff, recovery, MOA's/Ranges, air refueling tracks and alternate bases. Takeoff/recovery data will include KSZL [temps (F), dew points (F), engine run times, altimeter settings, pressure altitude, and winds].

3.2.4.4. Lunar and solar data.

3.2.4.5. Contrail data.

3.2.4.6. Any other planning factors, as requested or required by mission profile (e.g. sea surface temperatures).

3.2.5. **Tactical Decision Aids (TDAs).**

3.2.5.1. The WF will utilize the Target Acquisition Weapons Software (TAWS) program. The WF will reference the 442 FW flying schedule to determine the need for TDAs. Generally, TDAs will be created for two periods of flying or as required for range support. TDAs will be made available on the WF's SharePoint Site NLT 3 hours prior to takeoff.

3.2.5.2. For an accurate TDA the following information is needed: Time over Target, latitude/longitude of target location, sensor type, munitions being used, dimensions of target, if the target is a building, whether the target is heated or not, attack altitude, and for training purposes, the attack heading. **Attachment 16** provides an example of a TDA.

3.3. **MISSIONWATCH.** The WF will conduct a continuous MISSIONWATCH of all routes and flying areas used by Whiteman flying units during the times they are using them. The WF will relay weather WWAs detailed in **Attachment 6** and any significant changes in weather conditions previously briefed to the SOF (FOXTROT) and Operations Supervisor (Top3/MADDOG). During emergency situations or rapidly changing conditions, the WF will immediately notify the SOF and Operations Supervisor.

3.4. **Mission Weather Verification.** The WF tracks all sorties that received a Whiteman Flying MEF Brief and performs a GO/NO GO verification for forecast conditions at takeoff, the mission area (AR, Range, MOA, etc), and landing. Results are heavily dependent on customer/operator feedback via the weather debrief form in PEX. The results are reported to the 509th Operations Support Squadron Commander (509 OSS/CC) monthly and utilized in MEFP improvement to mitigate environmental impacts to future missions.

3.5. **Pilot-to-Metro Service (PMSV).** The WF will provide full service PMSV on the assigned UHF frequency of 344.6 MHz or via phone patches to (COM: 660-687-3061/3062 or DSN: 94-975-3061/3062). Aircrews are highly encouraged to relay pilot reports during PMSV contacts.

3.5.1. The WF will check the PMSV radio to ensure operational status at least once daily with the control tower or an aircraft. Notify tower, base operations, command post, and Communications Focal Point of PMSV status/outage.

3.5.2. The WF will notify 509 OSS/OSAA of extended PMSV outages lasting more than 1 hour for incorporation into NOTAMs.

3.6. **Space Weather Support.** Space weather data and forecasts for Whiteman AFB customers are available upon request. Information available includes space weather impacts on radio frequencies and the Global Positioning System (GPS).

3.7. **Toxic Corridors**. IAW AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, the WF will provide the 509 CES/CEX with weather data so they can calculate toxic corridors for chemical spills. The WF will not be responsible for producing toxic corridors.

3.8. **Chemical Downwind Messages:** The WF will provide weather inputs to Chemical Downwind Messages upon request from Emergency Operations Center personnel for disaster response, chemical/nuclear attack, and exercise purposes via the 26 OWS website.

3.9. **Airfield Operating Mission Execution Forecast (MEF).** This MEF contains hourly forecast weather information pertaining to Whiteman. In addition, MOAs and ranges of the day will be included when necessary. It is designed for local use and is issued to the weather SharePoint site no later than 1/2 hour after the issuance of each TAF and/or TAF amendment. The weather information in this MEF is valid for 12 hours, in one hour increments, and will be updated every eight hours or as needed by the weather technician to reflect the current conditions, forecast changes and/or support of local flying operations.

3.9.1. The 1130Z and 1930Z MEFs are produced 7 days a week (as local flying requires). The 0330Z MEF will be produced and posted as required to support scheduled local flying and if flying briefings are required prior to the 1130Z MEF post time.

3.9.2. Specification and Amendment Criteria. The Airfield Operating MEF will be reviewed continuously and updated / amended anytime specification criteria are met or when a new TAF has been issued for Whiteman AFB. Specification Criteria for the Airfield Operating MEF will begin with ceilings and visibilities (CIG/VIS) of 5000/5 and 1500/1. In addition, the amendment criterion below needs to be specified. This MEF will be checked every two hours at a minimum and amended appropriately. Amendments are required when any of the thresholds below are met:

Table 3.1. Airfield MEF Amendment Criteria.

1. CIG/VIS: >=3000/3, 1000/2, 700/1, 300
2. Surface Winds: >30 degree difference in wind direction with 10 kts or > in spd (including gusts)
3. Temperature: 3 degrees Celsius or greater or 5 degrees Fahrenheit or greater
4. Icing: Any icing forecast or differing by a reportable value for SZL
5. Turbulence: LGT-MDT or greater (Cat II) forecast or differs by reportable value for SZL
6. Thunderstorms and Precipitation forecast or change for SZL
7. B-2 Induction Icing: Forecast or change in Run time
8. Altimeter Setting: > .09 QNS difference
9. An issued weather watch, warning and or advisory

3.9.3. The current Airfield Operating MEF is available from the weather SharePoint page: **https://whiteman.eis.af.mil/int/509thBW/509thOG/oss/OSW/default.aspx**. See **Attachment 15** for an example.

4. Staff Weather Element

4.1. **Wing Standup.** Presented in person Monday thru Thursday at 1500L, or as requested by the 509th Bomb Wing Commander (509 BW/CC). (POC: 509 MOC – 687-1950) Briefing held in Bldg. 509, Spirit Conference Room. Briefing normally presented by Severe Weather Standby Management. The content of the briefing is flexible, but will include a current satellite/radar/surface depiction and a 5-day forecast for Whiteman AFB with impacts. **Attachment 13** provides an example of the 5-day forecast with impacts.

4.2. **509 BW Staff Meeting.** Presented in person on Wednesday at 1000L or as requested by the 509 BW/CC. (POC: 509 BW/CCA) Briefing held in Bldg. 509, Spirit Conference Room. Briefing normally presented by Severe Weather Standby Management. The content

of the briefing is flexible, but will include a current satellite/radar/surface depiction and a 5-day forecast for Whiteman AFB.

4.3. **Commander's Senior Staff.** Presented when a Unrestricted Commander's Senior Staff recall is announced. Normally presented by Command Meteorologist, Operational Meteorologist or for immediate recall, first weather technician available will attend the contingency/exercise briefing. The format of the briefing will be tailored to the scenario driving the Commander's Senior Staff's formation. At a minimum, the briefing will include current satellite/radar/surface depiction, a 24 hour impact slide and a 5-day forecast for Whiteman AFB. Other information will be briefed as requested.

4.4. **Special Assignment Airlift Mission (SAAM).** 19 MUNS Munitions Accountable Systems Officer (MASO) will notify WF by calling extension 687-3061. WF will provide 5-day forecast to the MASO no earlier than the day of the brief. A weather briefer will attend the meeting, generally held in Building 509, Spirit Conference Room.

4.5. **Mobility Concept/Pre-deployment Briefing.** Presented in person, requested by Installation Deployment Officer, deployment staff will print a 5-day hard copy from weather SharePoint site (upon request hand-carry 5-day PowerPoint soft copy). As a minimum, the briefing will include forecast conditions at Whiteman AFB for departure time, deployed area climatology, and forecast conditions for destination arrival time. Other topics will be briefed as required. Operational Meteorologist or representative will go to the Mobility Center, Building 705.

4.6. **Instrument Refresher Course (IRC).** A WF representative will provide a local weather effects briefing to all IRC classes. The briefing format is dependent on the season and includes climatology, seasonal threats, and weather products. IRC schedulers will provide the WF with a schedule of upcoming IRCs as early in the process as possible.

4.7. **Climatology Support**. A WF representative will maintain a monthly and yearly climatology report and distribution list. The Climatology monitor will send a recertification letter and questionnaire once a year in June to those on the climatology report distribution list.

4.7.1. Whiteman Army Aviation Support Facility (AASF). Climatology briefings will be presented twice a year, normally in spring and fall. These in-person briefings include information on seasonal hazards to flight. Coordinate with Battalion Director of Operations.

4.7.2. **Climatic data for Whiteman AFB.** Data will be faxed or emailed to the agencies listed below monthly and as requested. Data will include daily and monthly high and low temperatures, mean temperature, heating degree days, cooling degree days, total precipitation, total snowfall, maximum snow depth, days with thunderstorms, days with fog, peak wind direction, and peak wind speed.

4.7.2.1. 509th Civil Engineering Squadron (509 CES/CEAO, 509 CES/CEOFE, 509 CES/CEOIB).

4.7.2.2. 509th Contracting Squadron (509 CONS/LGCA).

4.7.2.3. US Army Corp of Engineers (USACE-NWK-EC-MW).

4.7.3. Other climatology data will be available upon request including data for other locations. Requests should be made at least two business days in advance in order to allow the WF to research and compile the data available from 14 WS

4.8. **Emergency Operations Center (EOC) Support.** The WF will provide trained and qualified weather technicians to support the 509 BW EOC. The weather technicians will assist the EOC with weather related issues, not operations or airfield issues. They will ensure the EOC commander is aware of pertinent meteorological conditions to assist with attack actions, natural disasters, major accident response and Department of Energy Safe Haven for National Defense Area procedures. Additionally, the WF will provide weather input for chemical/effective downwind messages (CDMs/EDMs) as necessary to 509 CES/CEX representatives based on upper-air wind data. REF: Whiteman AFB Air Force Global Strike Command Emergency Management OPLAN 10-2.

4.9. **Air Traffic Control Limited Observation Program.** All tower controllers must receive local weather familiarization (to include tower visibility observation training) and participate in Cooperative Weather Watch IAW AFMAN 15-111. WF leadership/personnel will assist with coordination of tower visibility observation training and certification. Initial documentation of limited weather certifications will be documented on AF Form 3622, *Air Traffic Control/Weather Certification and Rating Record (LRA)*, and signed off by a designated weather examiner.

4.10. **Other Briefing Support.** Any other support will be given as requested or arranged through the WF leadership.

5. Meteorological Watch.

5.1. **General.**

5.1.1. The 26 OWS and the WF will jointly monitor observed and forecast weather conditions and notify selected agencies when pre-established weather conditions occur or are expected to occur.

5.1.2. Desired Lead Time. Advanced warning of threatening weather conditions allows local agencies to take specific actions prior to occurrence. The desired lead-time is the minimum amount of advanced notice an agency requires prior to the onset of a particular weather phenomenon.

5.1.3. All weather WWAs are issued IAW AFMAN 15-129. Warnings and advisories may be issued as forecast or observed. They are specialized products of the METWATCH and are issued to customers for use in making operational decisions and taking protective actions. Customers must regularly review their operational need for WWAs. Coordinate additions, changes and/or deletions with the weather flight commander or the superintendent.

5.1.4. The WF may issue or supersede a 26 OWS issued weather warning only when imminent weather conditions pose a hazard to life or property and prior coordination with 26 OWS is not practical or communications do not allow. The WF will be responsible for local dissemination and contact 26 OWS as soon as possible afterward so 26 OWS can assume responsibility/ accountability.

5.2. **Responsibilities.**

5.2.1. The 26 OWS will perform a continuous Terminal METWATCH for Whiteman AFB. They will issue all forecast Whiteman AFB weather WWAs. When the WF is closed, the 26 OWS will issue and disseminate all observed weather warnings and advisories meeting criteria in Tables 5.2 and **5.3**.

5.2.2. WF will perform **"eyes forward"** function as outlined in paragraph 2.9 assisting with METWATCH for the Whiteman AFB terminal area and advise the 26 OWS when hazardous conditions that could affect Whiteman AFB, or pose a hazard to life or property, are observed or expected to occur.

5.2.3. Other Whiteman units will assist IAW reciprocal support outlined in Chapter 7.

5.3. **Weather Watches.** ***A weather watch is a special notice provided to supported customers that alerts them of a POTENTIAL for weather conditions of such intensity as to pose a hazard to life or property for which the customer must take protective action.*** Whenever meteorological conditions are favorable or forecast to be favorable for such conditions to develop, the 26 OWS or the WF will issue a weather watch for Whiteman AFB, valid for a given time period. The text of the weather watch will contain all essential information. Watches are issued to alert organizations to the potential for occurrence of certain elements for planning/preparation purposes. As the chances of the element's occurring get sufficiently high, a forecast *warning* will be issued (except for lightning within 10nm or 5nm). In the case of lightning within 50nm, 25nm, 10nm, or 5nm, as the element is actually observed, an observed advisory/warning will be issued. Remember, however, not all watches will necessarily be followed by a forecast or observed warning. Finally, to allow timely notification, personnel should refrain from calling the WF unless it is absolutely necessary. Table 5.1 contains watch criteria.

Table 5.1. Forecast Weather Watch Criteria and Associated Desired Lead-Times.

Criteria	Desired Lead-Time	Issuing Agency
Tornado Watch. Issued whenever meteorological conditions are favorable for tornado development that may threaten Whiteman AFB.	As Potential Warrants	26 OWS
Hail. Issued whenever meteorological conditions are favorable for hail.*	As Potential Warrants	26 OWS
Surface Winds 35 Knots or Greater Watch. Issued whenever meteorological conditions are favorable for wind speeds 35 knots or greater.	As Potential Warrants	26 OWS
Freezing Precipitation Watch. Issued whenever meteorological conditions are favorable for freezing precipitation development on the base.	As Potential Warrants	26 OWS
Heavy Snow (2" or more within 12 hours) Watch. Issued whenever meteorological conditions are favorable for heavy snow over Whiteman AFB in which two inches of snow is possible within 12 hours or less.	As Potential Warrants	26 OWS

Blizzard Conditions Watch. Issued whenever meteorological conditions are favorable for considerable falling or blowing snow lasting for three hours or more with wind speeds of 30 knots or greater and visibility less than or equal to 1/4 mile.	As Potential Warrants	26 OWS
Lightning within 5NM Watch. Issued whenever meteorological conditions are favorable for lightning to occur within a 5nm radius from the center point of the runway. Issued with at least a 30 minute lead-time and cancelled promptly when potential for lightning within 5nm no longer exists.	30 Minutes	26 OWS

Note: Maximum values will be specified in text.

5.4. **Weather Warnings.** Weather warning support is an important aspect of the METWATCH concept. ***A weather warning is a special notice provided to supported customers when weather conditions are forecast to be of such intensity as to pose a hazard to life or property are imminent or occurring***. The 26 OWS and WF issue all weather warnings, upgrades/downgrades, extensions, and cancellations for a five (5) nautical mile radius of the runway midpoint (unless otherwise stated in the text of the warning (e.g. observed lightning within 10nm).

5.4.1. Weather warning criteria are divided into "observed" and "forecast" criteria. Observed weather warnings are issued by the WF whenever the criteria is observed or reported, and canceled when the criteria ceases. Forecast weather warnings are issued with an expected valid period (i.e., criteria forecast to occur during this period). Table **5.2** contains warning criteria.

Table 5.2. Weather Warning Criteria and Associated Desired Lead-Times

Criteria	Desired Lead-Time	Issuing Agency
Tornadoes	15 minutes	26 OWS
Hail* (any size)	90 minutes	26 OWS
Damaging winds $\geq$ 35 knots *	90 minutes	26 OWS
Freezing precipitation	90 minutes	26 OWS
Heavy snow (2" or more snowfall in $\leq$ 12 hours)*	90 minutes	26 OWS
Blizzard Conditions	90 minutes	26 OWS
Observed lightning within 5NM, 10NM	As Observed	WF

Note: Maximum values will be specified in text.

5.5. **Weather Advisories.** ***A weather advisory (WA) is a special notice provided to a supported agency when an established weather condition, which could affect its operation, is occurring or is expected to occur.*** The 26 OWS and the WF provides all weather advisories for Whiteman AFB. A WA is issued for "Whiteman AFB" and covers an area within a five nautical mile radius of the center point of the runway unless otherwise stated in the advisory.

5.5.1. Forecast Weather Advisories (FWA). Forecast advisories are issued IAW AFMAN 15-129 and local criteria. Forecast weather advisories are issued with an expected valid period (i.e. criteria forecast to occur during this period). Whiteman currently has no FWA criteria.

5.5.2. Observed Weather Advisories. Observed weather advisories are issued whenever the criteria is first observed or reported and cancelled when the criteria ceases. Observed advisories will be issued by the 26 OWS when the WF is closed and the OWS has the capability to sense the phenomena and issue the advisory in a timely fashion. Table **5.3** contains observed advisory criteria.

Table 5.3. Weather Advisory Criteria and Associated Desired Lead-Times.

Criteria	Desired Lead-Time	Issuing Agency
Crosswinds ≥ 25 knots (Note 1) (Issued during airfield operating hours only)	As observed	WF
Crosswinds ≥ 15 knots (Issued during airfield operating hours only)	As observed	WF
Potential for B-2 Induction Icing (Note 1, 2 & 3)	As observed	WF
Wind Chill reading –15°F to -44°F (Note 3)	As observed	WF
Wind Chill reading -45°F to -65°F (Note 3)	As observed	WF
Wind Chill reading < -65°F (Note 3)	As observed	WF
Surface Winds ≥25 kts but <35kts (Note 3)	As observed	WF
Lightning within 25NM, 50NM (Note 4)	As Observed	WF

Note 1: Any additional WA's for deployed aircraft will be coordinated with the 509 OSS/OSW commander (command meteorologist).

Note 2: Criteria for potential B-2 induction icing is when the outside air temperature is ≤43°F. The weather flight will keep the FOXTROT and MADDOG updated on any engine runtimes according to operations runtime matrix in **Attachment 9**.

Note 3: 26 OWS will issue this observed advisory when the WF is closed.

Note 4: During WF closure, the 26 OWS will notify the 509 BW/CP when lightning is observed within 50NM or 25NM advisory is issued. The 509 BW/CP will immediately notify the WF standby forecaster.

5.6. **Dissemination of Watches/Warnings/Advisories.** The 26 OWS will disseminate weather WWAs via standard communication systems (e.g., NIPRNET, SIPRNET) and AFW meteorological communication systems such as IWWC. All weather WWAs will be disseminated to AFWWS. Telephone confirmation will be used to ensure the command post, base operations, and the tower/SOF has received them. If the AFWS is inoperative, WWAs will be disseminated by phone to the same agencies. The command post and base operations will disseminate information to the agencies listed in **Attachment 5**.

5.7. **Weather Warning/Watch/Advisory Text Format.** The text of weather WWAs will contain the WWA number, the specific valid time period (until further notice for observed products), and specific conditions expected. They will be numbered consecutively with the # of the month, and the # of the warning (which is generated by IWWCs for 26 OWS issued

WWAs). A warning for observed lightning is the only criterion that will be issued separately from other warning criteria. More than one advisory may be in effect at the same time. The following additional requirements apply to warnings issued for criteria other than observed lightning.

5.7.1. The 26 OWS will not issue a warning for different thresholds of the same phenomenon valid for overlapping times. More than one warning may be in effect at the same time for the same location (i.e. lightning with in 5NM and damaging winds $\geq$ 35 knots), but only one warning will be in effect for a particular phenomenon.

5.7.2. Warnings issued to add or delete a weather phenomenon will include the explanation, "This warning upgrades/downgrades Weather Warning #(previous warning)."

5.7.2.1. UPGRADES. The new warning forecasts more severe weather.

5.7.2.2. DOWNGRADES. The new warning forecasts less severe weather.

5.7.2.3. EXTENDS. The valid period of a previously issued warning is extended.

5.7.3. Warnings and watches issued to extend the valid time will not be re-issued or re-numbered. These will include the explanation "This is an extension of Weather Warning #(current warning)."

5.7.4. When the weather technician believes that phenomena meeting warning, watch, or advisory criteria are no longer expected during the valid time, they will be canceled with the explanation "Weather Warning #(current warning) is canceled." See **Attachment 6** for dissemination formats.

5.8. **Severe Weather Action Procedures (SWAP).** These procedures are in place to ensure sufficient personnel are available during potential/actual severe weather events or during meteorological/operational events critical to mission success. For the purposes of these procedures, severe weather is defined as any weather phenomenon considered critical enough by the customer to require advance/special notice and subsequent actions to prevent serious injury or damage to personnel, property, or resources. It is imperative that timely and accurate weather WWAs are disseminated to all Whiteman AFB agencies to ensure personnel and resource protection. These procedures document a two-tier system with the WF and the 26 OWS sharing responsibilities for SWAP and resource protection.

5.8.1. WF Responsibilities. WF will perform the SWAP responsibilities as defined in AFMAN 15-129, AFI 10-229, *Responding to Severe Weather Events* and AFI 10-206, *Operational Reporting*. More specifically, WF will accomplish the following procedures:

5.8.1.1. Notification. The on-duty weather technician will notify the Severe Weather Action Team (SWAT) standby member(s) according to the following guidance:

5.8.1.1.1. During normal staff duty hours (0730L to 1630L, Monday through Friday, except federal holidays/authorized down days) the weather technician will implement SWAP by notifying the WF Commander, the WF Superintendent/NCOIC, Wing Weather Officer (WWO) and/or the SWAT standby member in their office or by phone whenever one or more conditions in Table **5.4** below are met or expected to occur. It is likely that the above personnel

are present in the weather station and do not need to be recalled/activated.

5.8.1.1.2. During WF closure the 509 BW/CP will notify the standby weather technician or SWAT standby member when the 26 OWS issues a severe weather watch or warning or other condition as indicated in Table **5.4** is met to determine SWAT activation.

Table 5.4. SWAT Notification Criteria:

Weather Condition	Desired Notification/ Activation Lead Time
1. One of the following Weather Watches is issued or phenomenon has potential to occur:	
A. Tornado (See Chapter 6, Tornado Procedures)	As Potential Warrants
B. Hail	As Potential Warrants
C. Winds ≥ 35 knots	As Potential Warrants
D. Freezing Rain (Any Intensity)	As Potential Warrants
E. Heavy Snow (Snow ≥ 2 inches in ≤ 12 hours)	As Potential Warrants
2. One of the following Weather Warnings is issued or phenomenon occurs:	
A. Tornado (See Chapter 6, Tornado Procedures)	15 minutes
B. Hail	90 minutes
C. Winds ≥ 35 knots	90 minutes
D. Freezing Precipitation (Any Intensity)	90 minutes
E. Snow ≥ 2 inches in ≤ 12 hours	90 minutes
3. One of the following Weather is issued by the National Weather Service:	
A. Severe Thunderstorm Watch/Warning	When Issued
B. Tornado Watch/Warning	When Issued
C. Any Winter Related Watch/Warning/Advisory	When Issued
4. In the event of unforeseen circumstances, such as a communications line failure, a critical equipment outage at either the 26 OWS or WF, the WF will implement the SWAP at the 26 OWS's request. The 26 OWS, as the agency ultimately responsible for forecast watch/warning support, will have this prerogative in the interest of Whiteman AFB resource protection and flight safety.	
5. Any other event or situation that the duty forecaster deems notification necessary.	As Required

5.8.1.2. Activation. The weather technician on duty will discuss the meteorological situation, manning requirements, and the recall of additional personnel (or place on standby) with the SWAT standby member. (If the SWAT standby member is unavailable, coordinate with the WF Commander, Superintendent, Wing Weather Officer (WWO), or section NCOICs). If deemed necessary the SWAT standby member will report to the weather station no later than 30 minutes after notification by the weather technician. Once the SWAT standby member has arrived they will assist in evaluating the situation, determine the need to recall additional personnel, and execute the SWAP duties/responsibilities in **Attachment 11**.

5.8.1.3. Upon arrival at the weather station the SWAT standby member, time permitting, will conduct a METCON with the 26 OWS Technician/Regional Manager.

5.8.1.4. The weather technician will augment the FMQ-19 automated observing system as stated in paragraph **2.3**.

5.8.1.5. Post Event Procedures. If severe weather actually occurs the following procedures will be executed if necessary.

5.8.1.5.1. OPREP-3 BEELINE Reporting procedures. When damage to the installation or aircraft has occurred due to weather, provide the information in **Attachment 10** to the 509 BW/CP.

5.8.1.5.2. If the event is to be used as one of the semi-annual SWAP tests, complete a memorandum for record documenting the event. Also, contact 26 OWS flight leadership and provide them with the memorandum or an e-mail for their records.

5.8.1.6. The WF personnel's home and cell phone numbers will be reviewed monthly or when a change in personnel occurs to ensure the most current numbers are available for SWAP.

6. Tornado Procedures

6.1. **General.** Tornadoes are the most violent phenomena of nature. They are spawned by severe thunderstorms and move in erratic tracks. Weather forecasters have a limited capability to forecast these rare events with sufficient lead-time for protection of life and property.

6.1.1. Procedures. The 26 OWS will issue a TORNADO WATCH as early as possible to alert personnel that meteorological conditions exist or are forecast that favor tornadic activity. Personnel should take any appropriate action deemed necessary by their chain of command, remain alert to changing weather conditions and monitor the radio or TV when threatening weather is moving toward the Whiteman AFB area. A tornado watch means people should prepare for a possible tornado and make preparations to take cover.

6.1.2. If a funnel cloud or tornado is seen approaching the base by reliable sources, is indicated on radar, or a warning is issued by the NWS for Johnson County, MO, then a TORNADO WARNING will be issued for the base. All personnel should seek shelter at that time. REMEMBER: A TORNADO WARNING MEANS THAT SIGNS OF TORNADIC DEVELOPMENT OR AN ACTUAL TORNADO HAVE BEEN SIGHTED AND PERSONNEL SHOULD TAKE COVER IMMEDIATELY!

6.1.3. Tornado Notification Process.

6.1.3.1. The 26 OWS or the WF will brief the 509 BW/CP personnel on tornadic activity expected to affect the base so they can sound the base siren. TORNADO WARNINGS will be disseminated IAW procedures listed in **Attachment 5**.

6.1.3.2. IAW MOU between Whiteman AFB and Knob Noster City Administration (6 Mar 09), the WF will contact Knob Noster's Dispatch Section (660-563-2233) to notify them the base is initiating the emergency notification system in response to imminent tornadic activity. In turn, Knob Noster Dispatch will contact the WF when they are initiating their emergency notification system for imminent tornadic activity.

6.1.4. The WF will cancel all TORNADO WARNINGS as soon as the tornadoes move out of the immediate area or dissipate.

6.1.4.1. The emphasis should be on preparedness. Because severe weather can develop so rapidly, a TORNADO WARNING may be issued with little previous notification.

6.1.4.2. All units and agencies will ensure all reports of tornadoes, funnel clouds, or hail are quickly relayed to the WF, 687-3061 or 687-3062. If the lines are busy, call 509 BW/CP and ask them to relay the data to the WF. The quickness with which we receive such information can be the difference between life and death.

6.1.4.3. Remember: a WATCH means "prepare"…a WARNING means "take cover."

7. Reciprocal Support

7.1. **General.** The agencies listed in this chapter will provide services as described below.

7.2. **509th Bomb Wing.** IAW AFI 10-229, the 509 BW/CC will chair a review of installation severe weather preparedness, capabilities, requirements, and procedures, no less than annually. The 509 BW/CCE (executive officer) will notify the WF of all requirements for or changes to the commander's scheduled briefings. Notify WF of all changes to 509 BW meeting times and requirements.

7.3. **509th Operations Group Commander (509 OG/CC) and/or staff will:**

7.3.1. Establish operational weather support requirements and procedures with the WF.

7.3.2. Notify the WF of all changes in mission weather support.

7.3.3. Provide earliest possible notification of requirements for Crisis Action Team Weather Briefings associated with exercises/contingencies.

7.4. **All flying units, including associate units will:**

7.4.1. Inform the WF 48 hours in advance of any special weather briefing or forecast requirements. At a minimum be prepared to provide the following information: Takeoff/time-over-target/landing times; route of flight; flight level; alternate/abort bases; refueling tracks if applicable. Also inform the WF of any upcoming operations for which they will require weather support.

7.4.2. Ensure all PIREPs during departure, in-flight, post-flight are relayed to the weather technician in a timely manner.

7.4.3. Provide at least 72-hour notice for Instrument Refresher Course lectures or seasonal safety presentations.

7.4.4. Notify WF of flying schedule changes via fax or email of form 2407.

7.4.5. Provide key mission information necessary (as security clearance permits) to ensure weather briefings are as timely, as accurate and as relevant as possible.

7.4.6. Provide feedback on MEFs to WF through PEX.

7.4.7. Notify WF of AFWS outages. When the AFWS is not operational, weather information will be disseminated via hotline or other suitable means.

7.4.8. 394th Combat Training Squadron. Provide weather technicians with an area to work for daily mission support, to include LAN connection and printer access.

7.4.9. Establish weather support requirements and procedures with the WF flight commander.

7.5. **509 BW and 442 FW/303 FS Supervisors of Flying (SOF) will:**

7.5.1. Obtain a weather briefing prior to assuming SOF duties.

7.5.2. Monitor weather information disseminated via AFWWS. Notify the WF when the AFWS needs to be logged out and when it is returned to service.

7.5.3. Increase monitoring of AFWS terminal, local weather data sets and alternate weather locations when ceiling/visibility conditions are less than 2000'/3 SM. Coordinate with the weather technician on the selection of an alternate airfield.

7.5.4. Relay all PIREPs to the weather technician (especially working areas) within 5 minutes of receipt.

7.6. **509th Bomb Wing Command Post (509 BW/CP) will:**

7.6.1. Disseminate weather WWAs IAW **Attachment 5**.

7.6.2. Notify the WF when a meteorologist is needed for Crisis Action Team.

7.6.3. Notify the WF of all 509 BW aircraft weather diversions.

7.6.4. Notify the WF when the Alert Aircraft Repositioning Plan (AARP) is implemented.

7.6.5. Notify the WF when the AFWS is out of service and when it is returned to service.

7.6.6. During back-up of PMSV or when a phone patch is requested, patch PMSV calls through to weather technician via phone line to Whiteman AFB METRO. Pass pilot reports (PIREPs) as they are received to Whiteman AFB METRO.

7.6.7. Monitor weather information disseminated via AFWWS.

7.6.8. Notify the WF whenever there is weather related property damage to Whiteman AFB.

7.6.9. Act as POC for weather WWAs issued by 26 OWS during WF limited duty hours.

7.6.10. If the weather station is closed, notify the standby weather forecaster when any weather watch, warning and/or advisory is issued by the 26 OWS. The WF will provide the 509 BW/CP with a standby forecaster recall roster NLT the day prior to scheduled closures.

7.6.11. Sound the base siren system if a tornado warning is issued by the WF or 26 OWS.

7.6.12. Spirit Control will respond to daily radio checks on 509 BW OG Net to ensure Hotel Conference capabilities exist.

7.7. **509th Maintenance Operations Center (MOC) Senior Controller will:**

7.7.1. Notify duty technician of any weather-dependent maintenance activities requiring weather support.

7.7.2. Establish procedures to ensure affected maintenance activities are promptly notified of all applicable weather WWAs.

7.8. **131st Bomb Wing/442nd Fighter Wing/1-135 Aviation Battalion will:**

7.8.1. Notify WF of all changes in mission weather support and provide daily flying schedule.

7.8.2. Ensure PIREPs (departure, in-flight, post-flight) are relayed to the WF.

7.8.3. Notify WF of contingency/deployment weather briefing support requests with a one week notice.

7.9. **509th Operations Support Squadron.**

7.9.1. **509th Operations Support Squadron Airfield Management (509 OSS/OSAA) will:**

7.9.1.1. Notify weather personnel of all in-flight emergencies (including exercises) inbound to Whiteman AFB.

7.9.1.2. Include appropriate weather information in the Flight Information Publications (FLIPs); to include, but not limited to, operating hours, PMSV frequency and outages, supporting OWS contact information, and pertinent observing information such as use of automated equipment and outages, and limitations hindering unobstructed visibility observations. Required changes will be submitted when requested by the WF. Provide new FLIPs when required.

7.9.1.3. Relay weather WWAs to the agencies listed in **Attachment 5**, to include 509th Operations Support Squadron Control Tower (509 OSS/OSAT) and OSAR.

7.9.1.4. Notify WF of AFWS outages. When the AFWS is not operational, weather information will be disseminated via hotline or other suitable means.

7.9.1.5. Notify the WF of aircraft mishaps/incidents at, or in the vicinity of Whiteman AFB and all aircraft mishaps involving Whiteman AFB based aircraft.

7.9.1.6. Notify WF of any changes to normal airfield operating hours. This includes the notification of early opening and closing of the airfield.

7.9.1.7. Provide for maintenance and refueling of generator for Building 35. Notify the WF when switching from commercial to generator power, or vice versa.

7.9.2. **509th Operations Support Squadron Control Tower (509 OSS/OSAT) will:**

7.9.2.1. Notify the WF of weather communications equipment (AFWS, PMSV) outages. When the AFWS is not operational, weather information will be disseminated via hotline or other suitable means.

7.9.2.2. Conduct daily operational checks of the PMSV frequency (344.6). Monitor PMSV frequency/provide aircrews with weather data when the WF's PMSV equipment is inoperative.

7.9.2.3. Notify WF via hotline, or other suitable means, of runway changes.

7.9.2.4. Tower personnel will receive weather training and local familiarization prior to certification. The WF will provide the initial training seminar and administer an exam. Tower personnel will administer recurring weather training with the WF's assistance, as necessary.

7.9.2.5. Perform a cooperative weather watch, report tower visibility, and notify the WF of any unreported changes in weather conditions to include:

7.9.2.5.1. Tower prevailing visibility decreases to less than or increases to equal or exceed 4 statute miles. **Note:** The WF will not include a tower visibility remark in automated or augmented observations.

7.9.2.5.2. Tower prevailing visibility changes by a reportable value (ref: AFMAN 15-111) when less than 4 statute miles.

7.9.2.5.3. Formation/dissipation, raising/lowering of cloud bases.

7.9.2.5.4. Precipitation begins/ends.

7.9.2.5.5. Obstruction to vision appears or dissipates.

7.9.2.5.6. Thunderstorms, tornado, funnel cloud, lightning seen, or thunder heard.

7.9.2.6. Provide weather personnel with initial ATC indoctrination.

7.9.2.7. Expeditiously provide PIREPS to WF when they are received or when requested to include location of encountered phenomena, time of encountered phenomena, flight level, aircraft type and at least one other element (sky cover, weather, temperature, winds, turbulence (including LLWS), icing, or other significant remarks).

7.9.2.8. Relay weather WWAs to aircrews.

7.9.2.9. Change the FMQ-19 automated observing system wind sensors as required/requested.

7.9.2.9.1. When FMQ-19 wind equipment is inoperative the WF will notify the 509 OSS/OSAT and RAPCON that the winds will be estimated.

7.9.2.10. Relay significant weather information to aircrews IAW FAA JO 7110.65.

7.9.3. **509th Operations Support Squadron RAPCON (509 OSS/OSAR) will:**

7.9.3.1. Provide a radio check for PMSV frequency (344.6) to WF upon request. Monitor PMSV frequency/provide aircrews with weather data when WF PMSV equipment is inoperative.

7.9.3.2. Provide radar information when requested by WF.

7.9.3.3. Notify WF when the AFWS needs to be logged out and when it is returned to service.

7.9.3.4. Expeditiously provide PIREPS to WF when they are received or when requested to include location of encountered phenomena, time of encountered phenomena, flight level, aircraft type and at least one other element (sky cover, weather, temperature, winds, turbulence (including LLWS), icing, or other significant remarks).

7.9.3.5. Relay significant weather information to aircrews IAW FAAO 7110.65.

7.9.4. **509th Operations Support Squadron Weapons and Tactics Flight (509 OSS/OSK) or the Mission Planning Cell Chief will:**

7.9.4.1. Coordinate operation plans through WF if weather support is required for plan execution.

7.9.4.2. Ensure workspace with SIPRnet and NIPRnet access is available for use by WF personnel during operations or exercises.

7.9.5. **509th Operations Support Squadron Operations Plans Flight (509 OSS/OSX) will:**

7.9.5.1. Notify the WF of any higher headquarters missions for which weather support could be required.

7.10. **509th Bomb Wing Safety Office (509 BW/SE) will:**

7.10.1. Notify WF of any local aircraft mishap/incidents where weather or weather service may have been a factor. The WF will collect, save, and provide weather data to support accident and mishap investigations.

7.10.2. Notify the WF of any damage on Whiteman AFB caused by weather.

7.10.3. Coordinate with WF on all messages containing references to weather.

7.10.4. Invite a WF representative to scheduled flying safety meetings.

7.11. **509th Security Forces Squadron will:**

7.11.1. Notify WF of observed hail, tornadoes, freezing precipitation, or other significant weather encountered during routine patrols.

7.11.2. Disseminate weather WWAs IAW **Attachment 5**.

7.12. **509th Civil Engineering Squadron will:**

7.12.1. Provide emergency electrical power to Whiteman AFB weather equipment. Failed generators will be repaired/replaced IAW priorities listed in the war support plan or base recovery plan, as appropriate.

7.12.2. Refuel generator's fuel storage tank through coordination with fuels management.

7.12.3. Notify WF through airfield management prior to emergency power generator operational tests. Switch to and from back-up power will not occur until the duty forecaster or designated representative has been advised and concurs.

7.13. **509th Logistics Readiness Squadron will:**

7.13.1. Disseminate Weather WWAs to agencies IAW **Attachment 5**.

7.13.2. During OREs, ORIs, and real world contingencies, provide the WF with one vehicle when requested.

7.14. **509th Communications Squadron (509 CS) will:**

7.14.1. Provide routine and emergency maintenance for the AN/FMQ-19 Automated Observing System and the Pilot-to-Metro capability. Maintenance personnel will *always*

receive clearance from the weather technician before taking the FMQ-19 system or components down for maintenance.

7.14.2. Respond to an equipment outage IAW 509 CSOI 33-1001 Attachment 1, if the outage is judged to be significant by the weather personnel. The weather technician will provide a verbal mission impact statement (significant or minimal) to the 509 CS Communications Focal Point upon notification of outage. Weather personnel may defer maintenance for minimal outages during non-duty hours if back-up equipment is available. Maintenance will only be deferred until the beginning of the next duty day.

7.14.3. **509 CS/SCOSC (Communications Focal Point) will:**

7.14.3.1. Record all WF outage reports to include the equipment listed in paragraph **7.15** as well as contract/vendor-driven communications such as phone circuits, etc., and issue a job control number.

7.14.3.2. Notify the responsible repair agent for maintenance and follow up with the responsible repair agent until service has been restored.

7.14.3.3. Coordinate all outage restoration times with the WF, who solely approves scheduled outages (including PMIs) or restoration to operational status of weather equipment.

7.15. **All units requiring AFWS accounts will:**

7.15.1. Provide the WF AFWS system manager, 687-3061, a POC to contact with the system link, username and password.

8. Supported Customer Mission and Aircraft Weather Sensitivities

Table 8.1. B-2 Supported Customer Mission and Aircraft Weather Sensitivities.

B-2 Spirit Bomber: **Unit Supported:** 509th Bomb Wing **Location:** Whiteman AFB, MO **Mission:** Conventional/Nuclear Bomb	
PERFORMANCE DATA:	
Cruise Airspeed: 420kts Range: --- Endurance: ---	Cruise Altitude: High 40,000ft – Low 20,000ft Max Cruise Altitude: 50,000ft Service Ceiling: 50,000ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: **Takeoff:** 200 / ½ RVR: 1,600ft (1,000ft HHD) RCR: 7 Taxi, 9 Takeoff **Landing:** 200 / ½ RVR: 2,400ft (or published mins) RCR: 9 or higher **Touch-Go:** 300 / 1 with Instructor Pilot 1,000 / 3 without Instructor Pilot	***Winds:*** **Crosswind Touch-Go:** 20kts Limit without Instructor Pilot 25kts Limit with Instructor Pilot 30kts = No Landing
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: No sustained flight aircraft in known/forecast icing. May climb and descend through light icing	

only. ***Turbulence:*** Aircraft may operate in light and moderate turbulence, but avoid severe turbulence with limitations during air refueling. ***Thunderstorm:*** Avoid thunderstorms laterally by 20nm below FL200. Avoid thunderstorms laterally by 40nm at/above FL200. When at/above FL200, stay VMC when within 40nm of any convective activity, not just thunderstorms, which have built above FL200. Also avoid cruising altitudes +/- 5,000ft or +/- 10° C of the forecast freezing level.
OTHER AIRCRAFT FEATURES:
Aircraft has good weather radar and good communications.
WEATHER ADVISORIES/WEATHER WARNINGS:

Tornado: Hangar Aircraft ***Hail:*** Hangar Aircraft – No takeoff/landings ***Thunderstorm/Lightning w/i 10nm:*** OG approval for takeoff/land (20nm); Cease munitions upload ***Thunderstorm/Lightning w/i 5 nm:*** Cease refueling	***Crosswinds GTE to 15kts:*** Cease B-2 lift operations (maintenance) ***Crosswinds GTE to 25kts:*** Limit Touch-Go operations ***Surface Winds GTE to 35kts:*** Parachute operations limit ***Potential for B-2 Induction Icing:*** Limit engine run times

Table 8.2. T-38 Supported Customer Mission and Aircraft Weather Sensitivities.

T-38: **Unit Supported:** 509th Bomb Wing **Location:** Whiteman AFB, MO **Mission:** Trainer Aircraft	
PERFORMANCE DATA:	
Cruise Airspeed: 540kts Range: 700nm Endurance: 1.5 hours	Cruise Altitude: 39,000ft Max Cruise Altitude: 43,000ft Service Ceiling: 50,000ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: **Takeoff:** 300 / 1 RVR: 200 / 1 with OG approval RCR: 7 Taxi, 9 Takeoff **Landing:** 300 / 1	***Winds:*** **Cross Component:** 30kts max takeoff and full stops dry runway 25kts max touch and go dry runway 20kts max takeoff and full stops wet runway 15kts max takeoff/landing formation flights 10kts icy/standing water
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: Aircraft possesses no anti-icing and de-icing equipment. Climb or descent through *forecast* conditions more severe that light rime or any *observed* conditions are prohibited. ***Turbulence:*** None.	
OTHER AIRCRAFT FEATURES:	
Aircraft does not have weather radar.	
WEATHER ADVISORIES/WEATHER WARNINGS:	
Tornado: Hangar Aircraft ***Hail:*** Hangar Aircraft ***Thunderstorm/Lightning w/i 10nm:***	***Crosswinds GTE to 15kts:*** No touch and go Formation flight crosswind limit for takeoff/landing ***Crosswinds GTE to 25kts:***

OG approval for takeoff and landing ***Thunderstorm/Lightning w/i 5 nm:*** Cease refueling	Crosswind limit ***Surface Winds GTE to 35kts:*** Parachute operations limit

Table 8.3. A-10 Supported Customer Mission and Aircraft Weather Sensitivities.

A-10: **Unit Supported:** 442d Fighter Wing **Location:** Whiteman AFB, MO **Mission:** Close Air Support "Tank Busters"	
PERFORMANCE DATA:	
Cruise Airspeed: 250kts Range: 800 – 1,800nm Endurance: 3 – 7 hours	Cruise Altitude: 10,000ft Max Cruise Altitude: 34,000ft Service Ceiling: 40,000ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: **Takeoff:** 300 / 1 **Landing:** 300 / 1 **Range:** 1,500 / 3	***Winds:*** **Cross Component:** 25kts
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: Aircraft possesses anti-icing windscreen. Light icing may degrade mission. Operating into moderate icing should not exceed 5 minutes; operating into known/forecast severe icing is prohibited. ***Turbulence:*** Aircraft may operate into light, maneuver around moderate, and must avoid severe turbulence.	
OTHER AIRCRAFT FEATURES:	
Aircraft does not possess weather radar. Its weather minimums change significantly with different missions. Missions with ordinance require minimum cig/vis of 1,500 / 3.	
WEATHER ADVISORIES/WEATHER WARNINGS:	
Tornado: Hangar Aircraft ***Hail:*** Hangar Aircraft ***Thunderstorm/Lightning w/i 10nm:*** OG approval for takeoff and landing ***Thunderstorm/Lightning w/i 5 nm:*** Cease refueling and munitions upload	***Crosswinds GTE to 25kts:*** Crosswind limit ***Surface Winds GTE to 35kts:*** Parachute operations limit

Table 8.4. AH-64 Apache Helicopter Supported Customer Mission and Aircraft Weather Sensitivities.

AH-64 Apache Helicopter: **Unit Supported:** 1st of the 135th Aviation Battalion, Missouri Army National Guard **Location:** Whiteman AFB, MO **Mission:** Attack Helicopter	
PERFORMANCE DATA:	
Cruise Airspeed: 120kts Range: 300nm Endurance: 2.5 hours	Cruise Altitude: 2,000ft Max Cruise Altitude: 12,000ft Service Ceiling: 22,500ft
GROUND WEATHER LIMITATIONS:	
Ceiling/Visibility: **Day:** 500 / 1	***Winds:*** Peak Gust Spread: 15kts

Night: 1,000 / 3	Prevailing Wind Speed: 45kts
IN-FLIGHT WEATHER LIMITATIONS:	
Icing: Aircraft possesses no anti-icing capability. Operating into areas of light icing is allowable for very short periods of time. Operating into known/forecast moderate to severe icing is prohibited. ***Turbulence:*** Aircraft may operate into light and moderate turbulence. Flight into known or forecast extreme turbulence or into known severe turbulence is prohibited.	
OTHER AIRCRAFT FEATURES:	
Aircraft does not possess weather radar. Low level wind shear, heavy rain, snow, freezing precipitation or ice fog can seriously affect helicopter performance.	
WEATHER ADVISORIES/WEATHER WARNINGS:	
Tornado: Hangar Aircraft ***Hail:*** Hangar Aircraft – No takeoff/landings ***Thunderstorm/Lightning w/i 25nm:*** Mission Go / No Go ***Thunderstorm/Lightning w/i 10nm:*** OG approval for takeoff and landing ***Thunderstorm/Lightning w/i 5 nm:*** Cease refueling ***Gust Spread GTE to 15kts:*** Limits engine start up	

SCOTT A. VANDER HAMM, Brigadier General, USAF
Commander, 509th Bomb Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 10-206, *Operational Reporting*, 06 September 2011

AFI 10-229, *Responding to Severe Weather Events*, 15 October 2003

AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, 24 January 2007

AFI 11-2B-2V3, *B-2--Operations Procedures*, 03 May 2010

AFI 11-202V3_AFGSCSUP, *General Flight Rules*, 01 February 2010

AFI 13-204V3, *Airfield Operations Procedures and Programs*, 01 September 2010

AFI 15-128, *Air Force Weather Roles and Responsibilities*, 07 February 2011

AFMAN 15-111, *Surface Weather Observations*, 10 March 2009

AFMAN 15-129, *Air and Space Weather Operations – Processes and Procedures*, 21 June 2004

AFMAN 33-363, *Management of Records*, 01 March 2008

AFOSHSTD 91-501, *Air Force Consolidated Occupational Safety Standard*, 07 July 2004

AFPD 15-1, *Air Force Weather Operations*, 19 February 2010

FAAO 7110.65, *Air Traffic Control*, 11 February 2010

MOA 15-28,

WHITEMANAFBI 48-103, *Heat and Cold Stress Guidance*, 14 May 2010

Prescribed Forms

No Forms Prescribed

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 3622, *Air Traffic Control/Weather Certification and Rating Record (LRA)*

AF Form 3803, *Surface Weather Observations (METAR/SPECI)*

Abbreviations and Acronyms

14 WS—14th Weather Squadron

19 MUNS—19th Munitions Squadron

26 OWS—26th Operational Weather Squadron

303 FS—303rd Fighter Squadron

442 FW—442d Fighter Wing

509 AMXS—509th Aircraft Maintenance Squadron

509 BW—509th Bomb Wing

509 BW/CC—509th Bomb Wing Commander

509 BW/CP—509th Bomb Wing Command Post

509 CES—509th Civil Engineer Squadron

509 CES/CEX—509th Civil Engineer Squadron Emergency Management

509 MSG/CC—509th Mission Support Group Commander

509 MUNS—509th Munitions Squadron

509 MXS—509th Maintenance Squadron

509 OG/CC—509th Operations Group Commander

509 OSS—509th Operations Support Squadron

509 OSS/CC—509th Operations Support Squadron Commander

509 OSS/OSA—509th Operations Support Squadron Airfield

509 OSS/OSAA—509th Operations Support Squadron Airfield Management

509 OSS/OSAR—509th Operations Support Squadron RAPCON

509 OSS/OSAT—509th Operations Support Squadron Control Tower

509 OSS/OSK—509th Operations Support Squadron Weapons and Tactics

509 OSS/OSW—509th Operations Support Squadron Weather Flight

509 OSS/OSX—509th Operations Support Squadron Plans Flight

509 SFS—509th Security Forces Squadron

AARP—Alert Aircraft Repositioning Plan

AASF—Army Aviation Support Facility

AIREP—Air Report

AFB—Air Force Base

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFOSH—Air Force Occupational Safety and Health Standard

AFPD—Air Force Prescribing Directive

AFRIMS—Air Force Records Information Management System

AFW—Air Force Weather

AFWS—Air Force Weather System

AGE—Aerospace Ground Equipment

AGL—Above Ground Level

ALSTG—Altimeter

AMD—Amendment

AOL—Alternate Operating Location

AOR—Area of Responsibility

ATC—Air Traffic Control

BWS—Base Weather Station

BWW—Basic Weather Watch

CDM—Chemical Downwind Message

CIG—Ceiling

CONUS—Continental United States

COR—Correction

CWW—Cooperative Weather Watch

DSN—Defense Switch Network

EDM—Effective Downwind Message

EOC—Emergency Operations Center

ERT—Engine Run Time

EWO—Emergency War Order

FAA—Federal Aviation Administration

FLIP—Flight Information Publication

FMH—1 – Federal Meteorological Handbook

FOD—Foreign Object Damage

FWA—Forecast Weather Advisory

IAW—In Accordance With

ICAO—International Civil Aviation Organization

IRC—Instrument Refresher Course

IWWS—Integrated Weather Weapon System

GPS—Global Positioning System

GTE—Greater Than or Equal To

KSZL—Whiteman Air Force Base

LAN—Local Area Network

LLWS—Low-Level Wind Shear

MAJCOM—Major Command

MASO—Munitions Accountable Systems Officer

MEF—Mission Execution Forecast

MEFP—Mission Execution Forecast Process

METAR—Aviation Routine Weather Report

METCON—Meteorological Conference or Discussion

METWATCH—Meteorological Watch

MOA—Memorandum of Agreement

MOU—Memorandum of Understanding

NCOIC—Non-Commissioned Officer in Charge

NLT—No Later Than

NOTAMS—Notice To Airmen

NWS—National Weather Service

OPR—Office Primary Responsibility

ORE—Operational Readiness Exercise

ORI—Operational Readiness Inspection

OWS—Operational Weather Squadron

PEX—Patriot Excalibur

PIREP—Pilot Weather Repot

PMI—Preventative Maintenance Inspection

PMSV—Pilot-to-Metro Service

POC—Point of Contact

RCR—Runway Condition Reading

RDS—Records Disposition Schedule

RTD—Real Time Data

RVR—Runway Visual Range

SOF—Supervisor of Flying

SPECI—Aviation Selected Special Weather Report

SWAP—Severe Weather Action Procedures

SZL—Whiteman Air Force Base

TAF—Terminal Aerodrome Forecast

TAWS—Target Acquisition Weather Software

TDA—Tactical Decision Aid

TSRA—Thunderstorms With Rain Showers

UTC—Universal Time Coordinated

VIS—Visibility

WA—Weather Advisory

WF—Weather Flight

WMO—World Meteorological Organization

WWA—Watches, Warnings and/or Advisories

WWO—Wing Weather Officer

Terms

Aircraft Mishap— Term used to denote any event resulting in damage to, or destruction of any aircraft to include lightning strikes, inadvertent departure from the paved runway or taxiway surface, aircraft or Aerospace Ground Equipment (AGE) fires, and forced landings due to in-flight emergencies.

Amendment (AMD)— Used as a message modifier when transmitting an aerodrome forecast amendment.

Climatology— The historical records of weather conditions measured or observed at a specific location is known as climatology. Some data goes back over 100 years, but generally, a 10- to 25-year history is more common. Climatology is useful in planning operations beyond 5 to 7 days. It usually describes the average (or mean) conditions such as high and low temperatures and extremes.

Desired Lead-time (DLT)— The amount of advance notice a supported agency desires before the onset of a particular weather phenomenon.

Eyes Forward— Weather Flight technicians are the eyes forward for the technicians in the Operational Weather Squadron (OWS) and integrate weather radar data, meteorological satellite imagery, lightning detection readouts, and non-standard weather data systems (vertical profilers, mesonet data, etc.) to create an integrated weather picture and near-term trend forecasts for the OWS. Eyes forward yields meaningful meteorological information not contained in coded observation to the servicing OWS and is an integral part of the meteorological watch for an installation or contingency operating location.

Forecast Weather Advisory (FWA)— A weather advisory issued when the customer requires advance notification of an impending weather condition with sufficient time to allow for protective actions.

Issue Time— The time when an agency is notified of a watch, warning, or advisory. When more than one agency is notified, the issue time is the time the last agency is notified. Follow-up notifications are not considered when determining issue time.

LOCAL Observation— An unscheduled observation taken when specific local criteria are met. All LOCALs shall be made as soon as possible after the relevant criteria are observed.

METAR Observation— Meteorological Aviation Report. A routine scheduled surface weather observation. It contains a report of wind, visibility, runway visual range, present weather, sky

condition, temperature, dew point, and altimeter setting. In addition, significant remarks are appended to the METAR observation.

METWATCH— Monitoring aerospace weather for a route, area, or terminal and advising concerned organizations when phenomena that could affect their operations or pose a hazard to life or property are occurring or about to occur.

Mission Execution Forecast (MEF)— A customized weather product providing terrestrial and space weather data and forecasts for a specific mission, or set of missions. It fully integrates aerospace weather with the customer's tactics, weapon systems, environmental sensitivities of equipment, and other operational requirements.

MISSIONWATCH— The monitoring of aerospace weather for a specific mission (i.e., ground, air, or space) and informing supported agencies when un-forecast mission-limiting phenomena could impact operations.

Operational Weather Squadron (OWS)— An organization comprised of management, technician, and training personnel responsible for providing regional weather support. Their mission is to produce theater-scale tailored weather forecast products and services to customers within their area of responsibility.

Pilot Report (PIREP)— A report of in-flight weather provided by an aircrew member.

Severe Thunderstorm— For Whiteman AFB, a thunderstorm that produces hail and/or surface wind greater than or equal to 35 knots.

Severe Weather— Any weather condition that poses a hazard to property or life.

Special (SPECI) Observation— An unscheduled observation taken when significant changes in weather elements meet special criteria. All SPECIs shall be made as soon as possible after the relevant criteria are observed.

Terminal Aerodrome Forecast (TAF) – A weather forecast prepared by the 26th Operational Weather Squadron (26 OWS) composed of required weather elements for Whiteman AFB airfield and covers a 24-hour period. Forecast elements in the body of the forecast text refer to the area within 5 SM of the center of the aerodrome complex. Operationally significant elements outside this area are included in remarks (e.g., TS OMTNS or VCTS). The term VC (vicinity) refers to the area between 5 SM and 10 SM of the aerodrome complex. TAFs are issued every 8 hours at 0300 Zulu, 1100 Zulu, and 1900 Zulu. TAFs are amended according to criteria listed in Attachment 3.

Weather Flight (WF)— A military weather organization providing direct operational support at the tactical level.

Weather Advisory (WA)— A special notice provided to a supported agency when an established weather condition that could affect its operation is occurring or is expected to occur.

Weather Warning (WW)— A special notice provided to a supported agency when an established weather condition of such intensity as to affect operations, pose a hazard to life or property, and requires protective action, is occurring or is expected to occur.

Weather Watch— A special notice provided to supported customers that alerts them of a potential for weather conditions of such intensity as to pose a hazard to life or property for which the customer must take protective action.

Attachment 2

AUTOMATED AND AUGMENTED SPECIAL OBSERVATION CRITERIA

A2.1. Ceiling. The ceiling is observed to form below, decrease to less than or, if below, increase to equal or exceed:

A2.1.1. 3,000 feet

A2.1.2. 2,000 feet **

A2.1.3. 1,500 feet

A2.1.4. 1,000 feet

A2.1.5. 800 feet

A2.1.6. 700 feet

A2.1.7. 600 feet*

A2.1.8. 500 feet*

A2.1.9. 400 feet*

A2.1.10. 300 feet

A2.1.11. 200 feet*

A2.1.12. Other minima as specified in current FLIP (*FLIP requirement / ** ATC requirement)

A2.2. Sky Condition. A layer of clouds or obscuring phenomena aloft is observed below 600 feet and no layer aloft was reported below 600 feet in the previous METAR or SPECI observation.

A2.3. Prevailing Visibility. Prevailing visibility is observed to decrease to less than or, if below, increase to equal or exceed:

A2.3.1. 3 statute miles

A2.3.2. 2 statute miles*

A2.3.3. 1 1/2 statute miles*

A2.3.4. 1 1/4 statute miles*

A2.3.5. 1 1/8 statute miles*

A2.3.6. 1 statute mile*

A2.3.7. 3/4 statute mile*

A2.3.8. 5/85/8 statute mile*

A2.3.9. 1/2 statute mile*

A2.3.10. Other minima as specified in current FLIP (*FLIP requirement)

A2.4. Tornado, Funnel Cloud. Is observed or disappears from sight (Supplement).

A2.5. Thunderstorm begins or ends. (A SPECI is not required to report the beginning of a new thunderstorm if one is currently being reported).

A2.5.1. Begins: For reporting purposes, a thunderstorm is considered to have begun and to be occurring "on station" when (1) thunder is first heard, (2) when hail is falling or lightning is observed at or near the airfield and the local noise level is such that resulting thunder cannot be heard, or (3) lightning detection equipment indicates lightning strikes within 5NM of the airfield.

A2.5.2. Ends: A thunderstorm is considered to have ended 15 minutes after the last occurrence of any criteria listed in paragraph A2.5.1 above.

A2.6. Precipitation.

A2.6.1. Hail begins or ends (Supplement).

A2.6.2. Freezing precipitation begins, ends, or changes in intensity.

A2.6.3. Ice pellets begin, end, or change in intensity.

A2.6.4. Any other type of precipitation begins or ends. Note that, except for freezing rain, freezing drizzle, hail, and ice pellets, a SPECI is not required for changes in type or the beginning or ending of one type while another is in progress.

A2.7. Squall. A strong wind characterized by a sudden onset in which the wind speed increases at least 16 knots and is sustained at 22 knots or more for at least one minute.

A2.8. Wind Shift. The wind direction changes by 45 degrees or more in less than 15 minutes and the wind speeds are 10 knots or more throughout the wind shift.

A2.9. Runway Visual Range (RVR). The highest value during the preceding 10 minutes from the designated RVR runway decreases to less than, or if below, increase to equal or exceed:

Table A2.1. Runway Visual Range. (* indicates reference to FLIP requirement)

6,000 feet*	RVR 6,000 feet*
5,500 feet*	RVR 5,500 feet*
5,000 feet	RVR 5,000 feet
4,000 feet*	RVR 4,000 feet*
3,500 feet*	RVR 3,500 feet*
2,400 feet*	RVR 2,400 feet*
2,000 feet	RVR 2,000 feet

A2.9.1. Report RVRNO when RVR information is not available and conditions exist for reporting RVR.

A2.9.2. Prevailing Visibility first observed <= 1SM/1600 meters, again when prevailing visibility goes above 1SM/1600 meters.

A2.10. Aircraft Mishap. When operating in back-up mode, take an aircraft mishap SPECI immediately following notification or sighting of an aircraft mishap at or near the observing location unless there has been an intervening observation.

A2.11. Miscellaneous.

A2.11.1. Volcanic Ash. When first observed (Supplement).

A2.11.2. Any other meteorological situation which, in the opinion of the technician, is critical to the safety of aircraft operations.

A2.12. Single Element SPECI. Single element SPECIs are authorized for Tornadic Activity and Volcanic Eruptions when a delay in reporting all elements of the SPECI would cause an immediate threat to life or property.

Attachment 3

TAF AMENDMENT CRITERIA

A3.1. TAF Amendment. Individual elements in the TAF will be forecast as accurately as the state of the art allows. As a minimum, TAFs (scheduled or amended) will specify time of occurrence to the nearest hour (and minute as appropriate), the duration, and intensity of the standard criteria listed in Table **3.1**

Table A3.1. Whiteman AFB Terminal Aerodrome Forecast Amendment Criteria.

Forecast Element/Occurrence	TAF Amendment Criteria
Ceiling or Prevailing Visibility observed or later expected to decrease to less than, or if below, increase to equal or exceed:	**Category** **Limits** D ≥3,000 ft / 3 statute miles C 1,000 to < 3,000 ft / 2 to < 3 statute miles B 200 to < 1,000 ft / 1/2 to < 2 statute miles A < 200 ft / 1/2 statute mile Categories are determined by the lower of the values. Lowest published airfield minimum for Ceiling/Visibility category A.
Surface Wind	The difference between the observed predominant wind speed (or gust) and the forecast wind speed (or gust) is 10 knots or more. Direction change greater than 30 degrees when the predominant wind speed or gusts are expected to be over 15 knots.
Precipitation	Un-forecast freezing precipitation begins or ends. The beginning or ending of precipitation causing a local weather warning or weather advisory that can be specified in the TAF to be issued, canceled, or amended. Weather operator considers the occurrence or nonoccurrence of precipitation to be operationally significant.
Icing, not associated with thunderstorms, from the surface to 18,000 ft MSL	The beginning or ending of icing first meets, exceeds, or decreases an intensity of below light or greater thresholds (for CAT II aircraft) and was not specified in the forecast.
Turbulence (for Cat II aircraft), not associated with thunderstorms, from the surface to 10,000 ft MSL	The beginning or ending of turbulence first meets, exceeds, or decreases below moderate or greater

	thresholds (for CAT II aircraft) and was not specified in the forecast.
Non-convective low level wind shear	Is occurring and is expected to continue, or is expected to begin, but is not specified in the forecast. Is forecast in the TAF, but is no longer expected to occur during the forecast period.
Forecast weather warning criteria and/or weather advisory criteria that can be specified in the TAF	Is occurring and is expected to continue, or is expected to begin, but is not specified in the forecast. Is forecast in the TAF, but is no longer expected to occur during the forecast period.
Thunderstorms	Incorrect by forecasted start or end time.
Specification of Temporary (TEMPO) conditions	Forecast conditions specified as temporary become predominant conditions. Forecast conditions specified as temporary do not occur as forecast. Forecast conditions specified as temporary are no longer expected to occur.
Changes to Predominant Conditions:	Forecast change conditions (BECMG group) occur before the beginning of the specified period of change and are expected to persist. Forecast change conditions (BECMG group) do not occur by the specified time. Forecast change conditions (BECMG group) are no longer expected to occur.

Attachment 4

EXAMPLE AFWS DISSEMINATION FORMATS

Table A4.1. Hourly Surface Observation (METAR).

RECEIVED 28/0057Z
KSZL METAR 0057Z 17014G26KT 3/4 R19/6,000FT +TSRA SCT010 BKN028CB
OVC040 63/59 ALSTG 29.91 RMK FRQ LTGICCA TS OHD-E MOV E CB
12 W MOV E PA +881 DA +2357 WR// 57/DM

Table A4.2. Special Surface Observation (SPECI).

RECEIVED 28/1716Z
KSZL SPECI 1716Z 32012KT 2-SN SCY000 OVC008 30/28 ALSTG 30.12 RMK VIS
NW 1 SN SCT000 PA +687 DA +2118 LSR24 16/CB

Table A4.3. Single Element Special Surface Observation (SPECI).

RECEIVED 28/2113Z
KSZL SPECI 2113Z ALSTG M RMK TORNADO B13 1/8 W MOV E PA M DA M 13/SM

Table A4.4. Single Element Local Observation (LOCAL).

RECEIVED 28/0125Z
KSZL LOCAL 0125Z 24025G35KT ALSTG M RMK PA M DA M 25/LG

Table A4.5. Pilot Report (PIREP).

RECEIVED 28/2320Z
KSZL PIREP TIME 2320 OV KSZL180030 FL350 TP C5 SK SKC TA M47 WND
250095KT TURB NEG ICG NEG

Table A4.6. Terminal Aerodrome Forecast (TAF).

RECEIVED 28/1102Z
KSZL FCST 2811-2911 19012KT 7 VCTS SCT030 BKN080 TIMETER29.98INS
BECMG 15-16 VRB20G29KT 4 -TSRA SCT015 BKN030CB OVC080
ALTIMETER29.91INS
TEMPO 16-18 VRB25G35KT 1/2 +TSRAGR SCT008CB BKN012
BECMG 18-19 32010G22KT 7 NSW BKN025 BKN080 BKN300

ALTIMETER30.02INS TEMP 24C AT 2100Z TEMP 15C AT 1300Z 02/RLR

RECEIVED 28/1515Z

KSZL FCST AMD 2815-2811 19012KT 7 VCTS SCT030 BKN100

ALTIMETER29.94INS

BECMG 20-21 20010G20KT 7 FEW250 ALSTG30.08INS TEMP 24C AT

2100Z TEMP 15C AT 1300Z AMD 1535 15/RLR

Table A4.7. Weather Watch.

Weather Watch 06-037

Valid 21/1841Z (21/1341L) TO 22/0030 (21/1930L)

Weather Watch for Whiteman AFB (KSZL)

Potential for Snow Accumulation greater than or equal to 2 in. within 12 hrs. exist at Whiteman AFB.

Table A4.8. Forecast Weather Warning.

Weather Warning #06-022

Valid 30/2230Z (30/1730L) TO 01/0000Z (30/1900L)

Weather Watch for Whiteman AFB (KSZL)

Heavy Snow Accumulation greater than or equal to 2 in. within 12 hrs. is expected at Whiteman AFB.

Table A4.9. Upgrade of a Weather Watch to Forecast Weather Warning.

Weather Warning #06-022

Valid 30/2230Z (30/1730L) TO 01/0000Z (30/1900L)

Weather Watch for Whiteman AFB (KSZL)

Heavy snow with accumulation greater than or equal to 2 in. in 12 hrs is forecasted to occur at Whiteman AFB.

This upgrades weather watch 06-037.

Table A4.10. Extension of a Forecast Watch/Weather Warning.

Weather Warning 06-022

Valid 30/2230Z (30/1730L) TO 01/0100Z (30/2000L)

Weather Watch for Whiteman AFB (KSZL)

Heavy snow with accumulation greater than or equal to 2 in. in 12 hrs is forecasted to occur at Whiteman AFB. This is an extension.

Table A4.11. Observed Weather Advisory.

Weather Advisory 09-004

Valid 21/1537Z (21/1037L) To UFN (UFN)

Observed potential for B-2 Induction Icing exists at Whiteman AFB.

Table A4.12. Observed Weather Warning.

Whiteman AFB Weather Warning #06-025

Valid 15/1533Z (15/1033L) To UFN (UFN)

Observed Lightning occurring within 5 nm. of Whiteman AFB.

Attachment 5

WEATHER WARNING/WATCH/ADVISORY NOTIFICATION DIAGRAMS

A5.1. If the AFWS system is out of commission, weather observations and other appropriate data will be disseminated by the WF or 26 OWS via telephone/hotline IAW Alternate Notification Chain flowchart (Figure A5.2). Notification assignments in Dissemination Flowchart also apply during relocation to the Alternate Weather Support Site.

A5.2. Agencies will notify the WF when their AFWS account is out of commission. After conducting initial system checks, the WF will then log it out through Air Force Weather Agency help desk at Offutt AFB, or 509 CS/SCOSC (Communications Focal Point) if it appears to be a local line problem.

Figure A5.1. Primary Notification Chain.

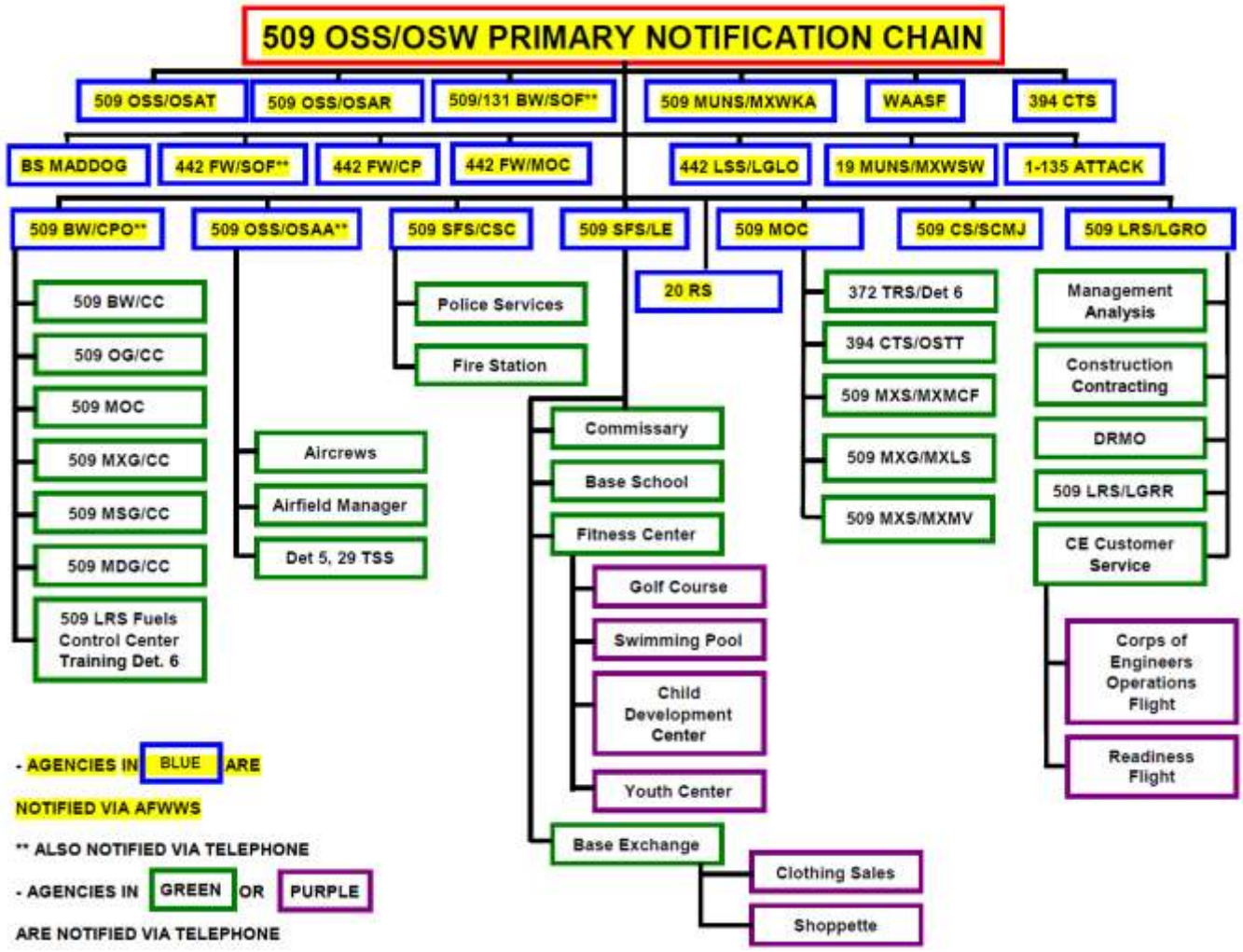
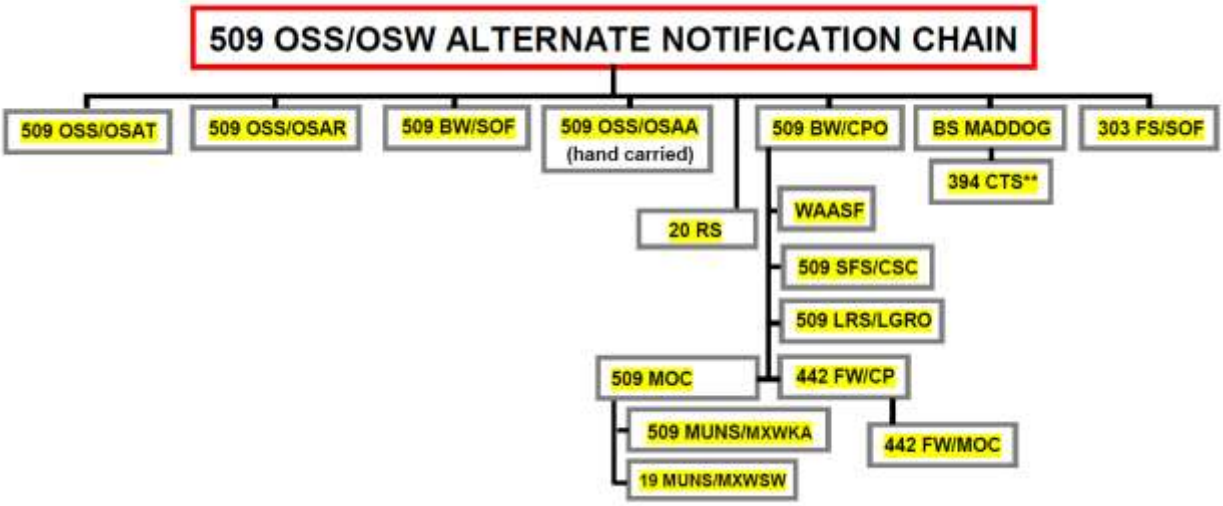


Figure A5.2. Alternate Notification Chain.



Note: This is a telephone notification plan (in the event of an AFWS outage). All other agencies will be notified as described in the notification chain.
****Only when required by operations**

Attachment 6

EXAMPLE FORMAT FOR WEATHER WARNINGS, WATCHES AND ADVISORIES

A6.1. Weather Advisories.

Table A6.1. Weather Advisories.

WEATHER ADVISORY 09-001 VALID 21/1537Z (21/1037L) TO UFN (UFN) **Observed potential for B-2 Induction Icing exists at Whiteman AFB.**
WEATHER ADVISORY 09-002 VALID 21/1537Z (21/1037L) TO UFN (UFN) **Observed Crosswinds >= 15 but < 25 kts are occurring at Whiteman AFB.**
WEATHER ADVISORY 09-003 VALID 21/1537Z (21/1037L) TO UFN (UFN) **Observed Crosswinds >= 25 kts at Whiteman AFB.**
WEATHER ADVISORY 09-004 VALID 21/1537Z (21/1037L) TO UFN (UFN) **Observed Surface Winds greater than or equal to 25 but less than 35 kts are occurring at Whiteman AFB.**
WEATHER ADVISORY 09-005 VALID 21/1605Z (21/1105L) TO UFN (UFN) **Observed Wind Chill less than or equal to -15 but greater than -45 F. at Whiteman AFB**
WEATHER ADVISORY 09-006 VALID 21/1605Z (21/1105L) TO UFN (UFN) **Observed Wind Chill less than or equal to -45 but greater than or equal to -65 F. at Whiteman AFB.**
WEATHER ADVISORY 09-007 VALID 21/1605Z (21/1105L) TO UFN (UFN) **Observed Wind Chill less than -65 F. at Whiteman AFB.**

WEATHER ADVISORY 09-008

VALID 21/1605Z (21/1105L) TO UFN (UFN)

Observed Lightning from Thunderstorms within 25 nm. of Whiteman AFB.

WEATHER ADVISORY 09-009

VALID 21/1605Z (21/1105L) TO UFN (UFN)

Observed Lightning is occurring within 50 nm. of Whiteman AFB

A6.2. Weather Warnings.

Table A6.2. Weather Warnings.

WEATHER WARNING 01

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Tornado expected within 5 nm of Whiteman AFB.

WEATHER WARNING 02

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Hail is expected to occur at Whiteman AFB. Maximum expected: ½ inch.

WEATHER WARNING 03

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Winds greater than or equal to 35 kts are expected at Whiteman AFB. Max expected: 45 kts.

WEATHER WARNING 04

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Freezing Precipitation (Any Intensity) is expected at Whiteman AFB.

WEATHER WARNING 05

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Blizzard with Falling and or Blowing Snow occurring and Visibility less than or equal to 1/4 mi and Winds greater than or equal to 30 kts for 3 hrs or more is expected at Whiteman AFB.

WEATHER WARNING 06

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Heavy Snow Accumulation greater than or equal to 2 in within 12 hrs is expected at Whiteman

AFB.

WEATHER WARNING 07

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Observed Lightning occurring within 5 nm of Whiteman AFB.

WEATHER WARNING 08

VALID 21/1612Z (21/1112L) TO 21/1812Z (21/1312L)

Observed Lightning occurring within 10 nm of Whiteman AFB.

A6.3. Weather Watches.

Table A6.3. Weather Watches.

WEATHER WATCH 01

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Potential for Tornado exists at Whiteman AFB.

WEATHER WATCH 02

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Potential for Hail is expected to occur at Whiteman AFB. Maximum expected: ½ inch.

WEATHER WATCH 03

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Potential for winds greater than or equal to 35 kts are expected at Whiteman AFB. Max expected: 45 kts.

WEATHER WATCH 04

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Potential for Freezing Precipitation exists at Whiteman AFB.

WEATHER WATCH 05

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Potential for Snow Accumulation greater than or equal to 2 in within 12 hrs exist at Whiteman AFB.

WEATHER WATCH 06

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Blizzard with Falling and or Blowing Snow potential exists and Visibility less than or equal to 1/4 mi and Winds greater than or equal to 30 kts for 3 hours or more at Whiteman AFB.

WEATHER WATCH 07

VALID 21/1615Z (21/1115L) TO 21/1812Z (21/1312L)

Potential for Lightning exists within 5 nm of Whiteman AFB.

ATTACHMENT 7

WEATHER CRITERIA CUSTOMER RESPONSE MATRIX

Table A7.1. Weather Criteria Customer Response Matrix.

Threshold value	*26 OWS and 509 OSS/OSW Product*	*Lead Time Needed*	*Rationale/Actions Taken*
Tornado	Forecast Weather Warning	15 minutes	Cease Flight Line Activities Take Cover
Tornado	Forecast Weather Watch	Issue on Potential	Hangar Aircraft/Secure Vehicles
Any Size Hail	Forecast Weather Warning	90 minutes	Hangar Aircraft
Lightning W/I 50NM	Observed Weather Advisory	As observed	SOF Decision Point
Lightning W/I 25NM	Observed Weather Advisory	As observed	SOF Decision Point Helicopter GO/NO GO, 509 OG approves take-offs/landings (20 nm)
Lightning W/I 10 NM	Observed Weather Warning	As observed	Cease aircraft lift OPS (509 MXS) Munitions/Fuels work toward Work towards a stop point (509 MXS, AMXS, MUNS) *Non-essential A-10 Flight line Maintenance Actions Cease (303 FS)
Lightning W/I 5 NM	Forecast Weather Watch	30 minutes	Prepare stop actions
Lightning W/I 5 NM	Observed Weather Warning	As observed	Cease refueling, and open Tank/line operations (509 MXS) A-10 Flight line Maintenance Actions cease (303 FS) Stop explosive OPS (509 MXS, AMXS, MUNS)
Low Level Wind Shear	TAF/PIREPs/Briefings	As observed	Limit T-38 touch-and-go OPS
Crosswinds ≥ 15kts	Observed Weather Advisory	As observed	Stop A-10/B-2 lift OPS (509 MXS) No T-38 touch-and-go OPS (wet runway)
Crosswinds ≥ 25kts	Observed Weather Advisory	As observed	T-38 touch and go limit (on dry runway) 30 kts xwnd is T/O and full stop limit
SFC Wind ≥ 30kts	TAF/PIREPs/Briefings	As observed	Limit heavy equipment OPS
SFC Wind ≥ 25kts	Observed Advisory	As observed	Stop high reach OPS Remove/Secure non-powered AGE outside of hangars
SFC Wind ≥ 35kts; max value specified in	Forecast Weather Warning	90 minutes	Parachute OPS limit Moor flight line aircraft

warning			Cease Heavy Equipment OPS at 50kts
Induction Icing for B-2	Observed Weather Advisory	As observed	FOD engines out/no start
GTE LGT ICG SFC-180	TAF/PIREPs/Briefings	As observed	T-38 limits in rime or greater icing Cease helicopter operations
Wind Chill –15° to -44°F	Observed Advisory	As observed	Limit/Monitor outdoor activity
Wind Chill –45° to –65° F	Observed Advisory	As observed	Limit/Monitor outdoor activity
Wind Chill < -65°F	Observed Advisory	As observed	Limit/Monitor outdoor activity
Temperature ≥ 85°F	Call Bio-Env @ 687-4325 IAW WABI 48-103	As observed Mar-May/15Sep-Nov	Limit/Monitor outdoor activity Ref: WAFBI 48-103
≥ 2" Snow in 12 hrs	Forecast Weather Watch	Issue on potential	509 CES recalls stand-by snow removal crews. 509 BW/CC reviews delayed reporting/early dismissal procedures IAW WAFBI 10-207
≥ 2" Snow in 12 hrs	Forecast Weather Warning	90 minutes	Stop aircraft life/tow operations Stop AGE deliveries Monitor road conditions Stop munitions deliveries
Blizzard Conditions (winds ≥ 30KT and visibility ≤ 1/4NM lasting for more than 3 hours	Forecast Weather Watch	Issue on potential	509 BW/CC reviews delayed reporting/early dismissal procedures IAW WAFBI 10-207 Monitor road conditions
Blizzard Conditions (winds ≥ 30KT and visibility ≤ 1/4NM lasting for more than 3 hours	Forecast Weather Warning	90 minutes	Stop aircraft life/tow operations Stop AGE deliveries Monitor road conditions Stop munitions deliveries
Freezing Precipitation	Forecast Weather Warning	90 minutes	Stop AGE deliveries/aircraft tows Stop munitions deliveries Add munitions movements Monitor road conditions Ground/Hangar helicopters Modify ambulance runs
Freezing Precipitation	Forecast Weather Watch	Issue on potential	Some limited aircraft hangering if not needed for day's flying 509 BW/CC reviews delayed reporting/early dismissal procedures IAW WAFBI 10-207
MDT TURB SFC-100	TAF/PIREPs/Briefings	As observed	Ground Helicopters
CIG/VIS 1500'/3SM	TAF/SPECI CRITERIA	As observed	Category 5 pilot minimums IAW AFI11-202V3_AFGSCSUP_I Table

			8.1
CIG/VIS 700’/2SM	TAF/SPECI CRITERIA	As observed	Category 4 pilot minimums IAW AFI11-202V3_AFGSCSUP_I Table 8.1
CIG/VIS 500’/1.5SM (Or published approach mins. Whichever is higher)	TAF/SPECI CRITERIA	As observed	Category 3 pilot minimums IAW AFI11-202V3_AFGSCSUP_I Table 8.1
CIG/VIS 300’/1SM (Or published approach mins. Whichever is higher)	TAF/SPECI CRITERIA	As observed	Category 2 pilot minimums IAW AFI11-202V3_AFGSCSUP_I Table 8.1
CIG/VIS 200’/1/2SM	TAF/SPECI CRITERIA	As observed	Airfield minimums Note: All B-2 pilots are cat 1 and follow published mins

ATTACHMENT 8

FORECAST AND OBSERVATION CODE BREAKDOWN

A8.1. Forecast Breakdown.

Table A8.1. Forecast Breakdown.

KSZL TAF AMD 271515 36010G20KT 4800 BR SCT005 OVC012 510002 650208
1 2 3 4 5 6 7 8 9
QNH3012INS T32/21Z T12/12Z
10 11
TEMPO 1821 OVC005
12
BECMG 0102 04008KT 9999 OVC025 650208 QNH3020INS WND VRB04KT AFT 05
13 14

A8.1.1. Station identifier (ICAO) for Whiteman Air Force Base.

A8.1.2. Data type. TAF - Terminal Aerodrome Forecast.

A8.1.3. Modifier. AMD - Amendment, COR - Correction, RTD - Transmission delayed.

A8.1.4. Valid Time. TAF - 24-hour valid period DDHHHH.

A8.1.5. Winds - The first three digits represent the direction from which the wind is blowing to the nearest 10 degrees, followed by the two-digit prevailing wind speed--gusts follow a "G".

A8.1.6. Visibility, in meters, followed by the weather or obstructions to visibility:

Table A8.2. Visibility.

Statute Miles	Meters	Statute Miles	Meters
1/16	0100	1 1/2	2,400
1/8	0200	1 5/8	2,600
3/16	0300	1 3/4	2,800
1/4	0400	1 7/8	3,000
5/16	0500	2	3,200
3/8	0600	2 1/4	3,600
1/2	0800	2 1/2	4,000
5/8	1,000	2 3/4	4,400
3/4	1,200	3	4,800

7/8	1,400	4	6,000
1	1,600	5	8,000
1 1/8	1,800	6	9,000
1 1/4	2,000	7+	9,999
1 3/8	2,200		

Table A8.3. Present Weather Identifiers.

QUALIFIER		**WEATHER PHENOMENA**		
Intensity or Proximity **1**	**Descriptor** **2**	**Precipitation** **3**	**Obscurations** **4**	**Other** **5**
Light	MI Shallow	DZ Drizzle	BR Mist (Fog)	PO Well Developed Dust/Sand Whirls
Moderate	PR Partial (covering part of the aerodrome)	RA Rain	FG Fog	SQ Squalls
Heavy (well developed in the case of dust/sand whirls, dust devils and tornadoes/waterspouts	BC Patches	SN Snow	FU Smoke	FC Funnel Cloud(s) (Tornado or Waterspout)
	DR Drifting	SG Snow Grains	VA Volcanic	
	DR Low Drifting	IC Ice Crystals (Diamond Dust)	DU Widespread Dust	SS Sand Storm
VC In the Vicinity	BL Blowing	PL Ice Pellets	SA Sand	DS Dust storm
	SH Shower(s)	GR Hail	HZ Haze	
	TS Thunderstorm	GS Small Hail and or Snow Pellets	PY Spray	
	FZ Freezing			

Note 1: 4,800 TSRA = 4,800 meters (3 miles) in thunderstorms and rain showers.

Note 2: 0400 FZDZ FG = 400 meters (1/4 mile) in freezing drizzle and dense fog.

A8.1.7. Sky coverage and height AGL in hundreds of feet of the base of the layer

Table A8.4. AGL Coverage.

SKC = Clear	0/8 coverage
FEW = Few	1/8 – 2/8 coverage
SCT = Scattered	3/8 – 4/8 coverage
BKN = Broken	5/8 – 7/8 coverage
OVC = Overcast	8/8 coverage

A8.1.8. Icing intensity and layers.

Table A8.5. Icing Intensity, Layers and Codes

6 = Icing Indicator 5 = Intensity (see Figure **A8.3**) 020 = Height above surface of base of layer in hundreds of feet 8 = Thickness of layer in thousands of feet	
Code	Icing
0	Trace icing
1	Light mixed
2	Light rime
3	Light clear
4	Moderate mixed
5	Moderate rime
6	Moderate clear
7	Severe mixed
8	Severe rime
9	Severe clear

A8.1.9. Turbulence intensity and layers.

Table A8.6. Turbulence intensity, layers and codes.

5 = Turbulence Indicator 1 = Intensity (see below)

000 = Height above surface of base of layer in hundreds of feet 2 = Thickness of layer in thousands of feet	
Code	Icing
1	Light
2	Moderate in clear air, occasionally
3	Moderate in clear air, frequent
4	Moderate in cloud, occasionally
5	Moderate in cloud, frequent
6	Severe in clear air, occasionally
7	Severe in clear air, frequent
8	Severe in cloud, occasionally
9	Severe in cloud, frequent
X	Extreme Turbulence

A8.1.10. Altimeter Setting. The minimum forecast for that time period.

A8.1.11. Max/Min temperature followed by time of occurrence (UTC).

A8.1.12. TEMPO = the hours during which conditions may be observed to occur intermittently.

A8.1.13. BECMG = a change in predominant conditions where the new conditions should be valid by the end of the BECMG time group.

A8.1.14. Remarks are used to elaborate on preceding data.

A8.2. Observation Breakdown.

Table A8.7. Observation Breakdown.

METAR	**KSZL**	**1655Z**	**26014G22KT**	**170V270**	**1SM**	**R26/1600FT**	**-TSRA BR**	**FEW005**
1	2	3	4	5	6	7	8	9
64/45	**ALSTG 30.05**	**RMK TS OVD MOV E TWR VIS 2**				**AO2A**	**SLP177**	
10	11	12				13	14	

A8.2.1. Observation type; METAR or SPECI.

A8.2.1.1. METAR = Regularly scheduled hourly observation transmitted between H+55 and H+59.

A8.2.1.2. SPECI = Special Observation – taken to report significant changes in weather elements.

A8.2.1.3. LOCAL = Local Observation – taken to report changes in conditions significant to local operations which do not meet special criteria.

A8.2.2. ICAO station identifier for Whiteman Air Force Base.

A8.2.3. Time in ZULU (Z).

A8.2.4. Wind direction, speed, and gusts reported to the nearest 10 degrees in 2 digits and in knots using 3 digits with gusts following a "G." Prevailing wind direction and speed are averaged every two minutes.

A8.2.5. Variability of wind direction 60 degrees or more.

A8.2.6. Visibility measured in Statute Miles (SM) from normal point of observation.

A8.2.7. Runway Visual Range (RVR) - instrument determined visibility in hundreds of feet; in this example, RVR for Runway 22 is 1,600Ft.

A8.2.8. Present weather. In this example, thunderstorm with light rain (TSRA) and light fog (BR) (see table on page 49 for full present weather identifier).

A8.2.9. Sky condition with cloud layers measured in eighths of cloud coverage and heights measured in hundreds of feet above ground level (AGL). (Example: FEW005 = Few clouds at 500ft).

Table A8.8. Sky coverage contractions.

CLR = Clear	0/8 coverage
FEW = Few	1/8 – 2/8 coverage
SCT = Scattered	3/8 – 4/8 coverage
BKN = Broken	5/8 – 7/8 coverage
OVC = Overcast	8/8 coverage
VV = Indefinite/definite ceiling cannot be determined. Vertical visibility reported as how far can be seen into the clouds.	

A8.2.10. Temperature and dew point; in degrees Fahrenheit locally and degrees Celsius long line.

A8.2.11. Altimeter setting (ALSTG) in inches of mercury.

A8.2.12. Remarks (RMK): Remarks to surface observation.

A8.2.13. AO2 – Automated Observing System not augmented. AO2A – Automated Observing system is being augmented.

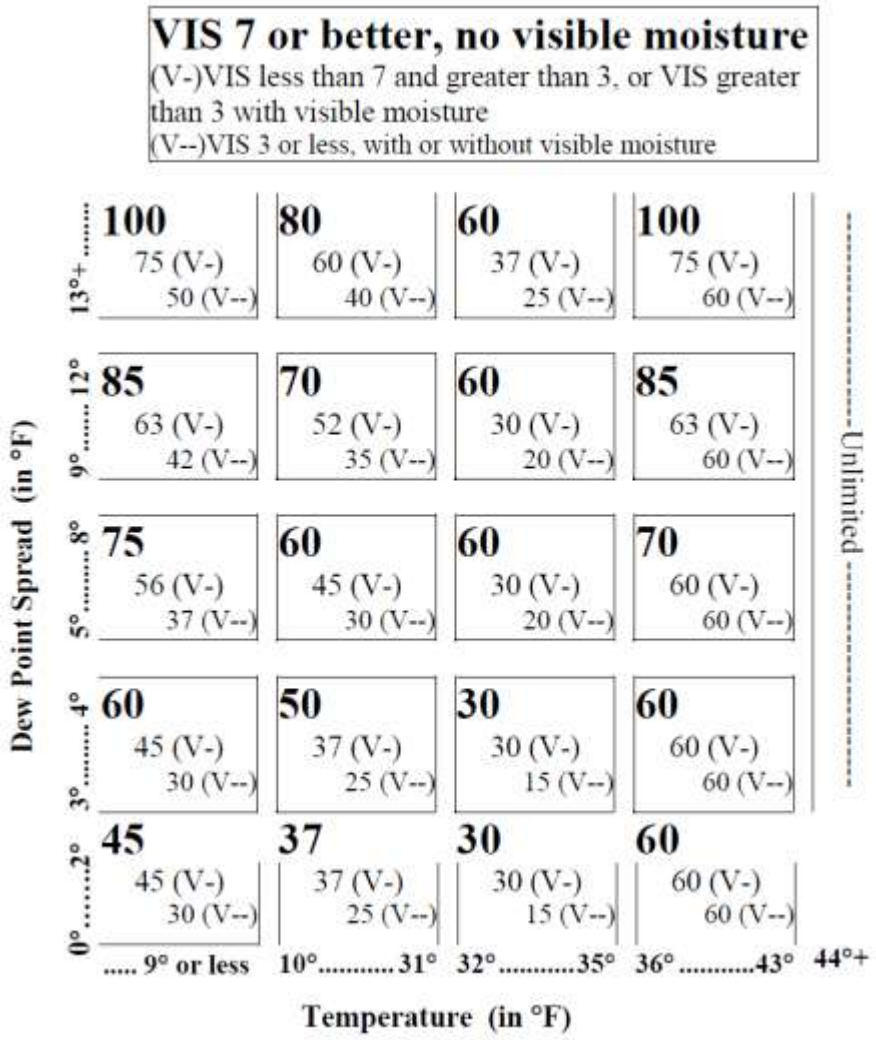
A8.2.14. Sea Level Pressure.

ATTACHMENT 9

ENGINE INDUCTION ICING GROUND RUN TIMES MATRIX

A9.1. Engine Induction Icing Ground Run Times.

Figure A9.1. Engine Induction Ground Run Times Matrix.



Note 1: If the Ground Run Time (with an original start time) is changed to a MORE restrictive Ground Run Time, operate from that point on (with a new reference time) no longer than the MORE restrictive Ground Run Time, not to exceed the ORIGINAL Ground Run Time (from the original start time).

Note 2: If the Ground Run Time (with an original start time) is changed to a LESS restrictive Ground Run Time, use the FULL Ground Run Time for the LESS restrictive Ground Run Time (from the original start time). A subsequent change back to a MORE restrictive Ground Run Time would revert back to the MORE restrictive Ground Run Time (from the original start time).

ATTACHMENT 10

OPREP-3 REPORT FORMAT

DD MMM YY

MEMORANDUM FOR 509 BW COMMAND POST

FROM: 509 OSS/OSW

SUBJECT: OPREP for Severe Weather Event on 21 Jan 10

Type of report: BEELINE

1. Actual severe weather experienced:
73 knot winds from the SW (23046G73KT) were reported on base at 21/2311Z.

2. Text of MEF and TAF in effect at the time of the event:
KSZL MEF 211500….
KSZL AMD 211817 AMD, etc….

3. Weather watches and warnings issued:
WHITEMAN AFB WEATHER WARNING #01-002
VALID 21/2000Z (21/1400L) to 22/0100Z (21/1900L)
DAMAGING WINDS:
Issued at: (time)
Lead time: (time)
Desired lead time: (time)

4. Operational status of meteorological equipment:
All Meteorological/Communication equipment (to include NIPR) at time of event operational.

Minimum Essential Addresses for OPREP-3 Beeline:
AFSWC WASHINGTON DC//
HQ USAF WASHINGTONDC//A3O-W//
HQ AFWA OFFUTT AFB NE//XOO//
1 AF TYNDALL AFB FL//CC/A3/A4/A5/A7//
HQ USAF WASHINGTON DC//A3I//
POC: RANK NAME, 509 OSS/OSW
DSN 975-6120 E-mail address

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509th Bomb Wing Command Post, Whiteman AFB MO 65305	1
26 OWS Barksdale AFB LA 71110	1

ATTACHMENT 11

WHITEMAN AFB SEVERE WEATHER ACTION PLAN CHECKLIST

A11.1. Whiteman AFB Severe Weather Action Plan Checklist.

Table A11.1. Whiteman AFB Severe Weather Action Plan Checklist.

#	*Who*	*Actions To Be Accomplished*	*Yes*	*No*	*N/A*
1	*Weather Technician*	Initiate recall of personnel as deemed necessary (based on mission, type of weather threat, anticipated workload, etc.). Assume role as senior flight member until recalled personnel arrive.			
2	*Weather Technician*	Conduct **initial, concise METCONs** so key personnel are apprised of the situation. Immediately assess the severe weather threat and, if not already accomplished: 2.1. Coordinate with 26 OWS on watches/warnings. 2.2. Issue observed advisories/warnings as needed.			
3	*Weather Technician*	Update SOF, MADDOG, and Top 3 of severe weather conditions.			
4	*Senior Member*	**Delegate Tasks** (double-up duties until enough people arrive): 4.1. OPUP/WSR-88D monitor (senior member). 4.2. Observations and warnings (airfield services technician). 4.3. Severe Weather Spotter (airfield services technician). 4.4. Phone monitor (mission weather technician).			
5	*Senior Member*	**Recurring Duties:** 5.1. Delegate according to mission requirements, tasks and manning. 5.2. Perform OPUP/WSR-88D monitor duties. 5.3. Provide briefings to SOF, MADDOG & Top 3 as required. 5.4. Ensure the following tasks are accomplished on a recurring basis: 5.4.1. Recall additional personnel as deemed necessary. 5.4.2. Adjust task assignments as deemed necessary. 5.4.3. Review warning criteria to verify all required warnings are issued and all customers have been notified. 5.4.4. Keep senior staff, command post, and customers apprised. 5.4.5. Ensure personnel focus on assigned tasks. 5.4.6. Relay important severe weather information to the NWS office (816-540-6021). 5.4.7. Ensure team is performing in concert (i.e., continuity in spoken and written information). 5.4.8. Provide meteorological expertise and guide decision-making.			

		5.4.9. Keep "wall hangers" out of operations area.			
6	*OPUP/WSR-88D Monitor*	**Primary Duties:** 6.1. Interrogate storms and related phenomena using OPUP/WSR-88D products. Exploit user functions whenever possible. 6.2. Monitor RPS list and change lists as the situation demands. 6.3. Advise Airfield Service Technician when thunderstorms are within 5NM, within 10NM, and outside of 10NM of the base. 6.4. Provide Airfield Service Technician with CB and thunderstorm positions and movements. 6.5. Archive data deemed necessary. 6.6. If a tornado is reported within 25 NM, archive data for (as a minimum) the period one hour prior through one hour after the event. Archive other events as deemed appropriate by the senior member.			
7	*Weather Technician*	**Primary Duties:** 7.1. Continue primary duties and follow duty priorities. 7.2. Work closely with the mission weather technician/senior member; allow this individual to accomplish tasks which will free you to handle critical tasks such as continuous weather watch, observations and warnings. 7.3. Handle mission duties not directly related to severe weather forecasting (e.g., flight weather briefings). 7.4. Review all products for accuracy and horizontal consistency (e.g., warnings, MEF, flight weather briefings). 7.5. Review PIREPs, SIGMETS for flight hazards, WWUS bulletins for severe weather reports, etc.; incorporate findings into forecast products. 7.6. Monitor OPUP/WSR-88D when Senior Member is called to the crisis action team/battle staff. 7.7. Maintain continuous weather watch. 7.8. Issue observed warnings as needed. 7.9. Generate and analyze an LAWC and METWATCH local area weather hourly. 7.10. Review all products for accuracy and horizontal consistency (e.g., runway changes, runway conditions, incorporation of radar data, TAF, warnings) and work with the OWS duty forecaster to amend as required or desired.			
8	*Severe Weather Spotter*	**Primary Duties:** 8.1. Assume a vantage point in the Control Tower (if possible) or another safe vantage point and use binoculars to closely watch for tornadic activity, hail, visible wind damage, and other possible severe weather indicators. 8.2. Coordinate closely with airfield services technician to pass information which can be used in weather observation.			

9	*Phone Monitor*	**Primary Duties:** 9.1. Screen calls to allow other flight members to focus on their duties. Answer questions directly when possible, and prioritize operational calls for the airfield technician and senior member. 9.2. When taking calls, find out who the person is and what information they need. 9.3. Direct calls from outside agencies (other than NWS, local and State Police) to Public Affairs (687-6125).			

ATTACHMENT 12

PLANNING MEF EXAMPLE

A12.1. Planning MEF Example.

Figure A12.1. Planning MEF Example.

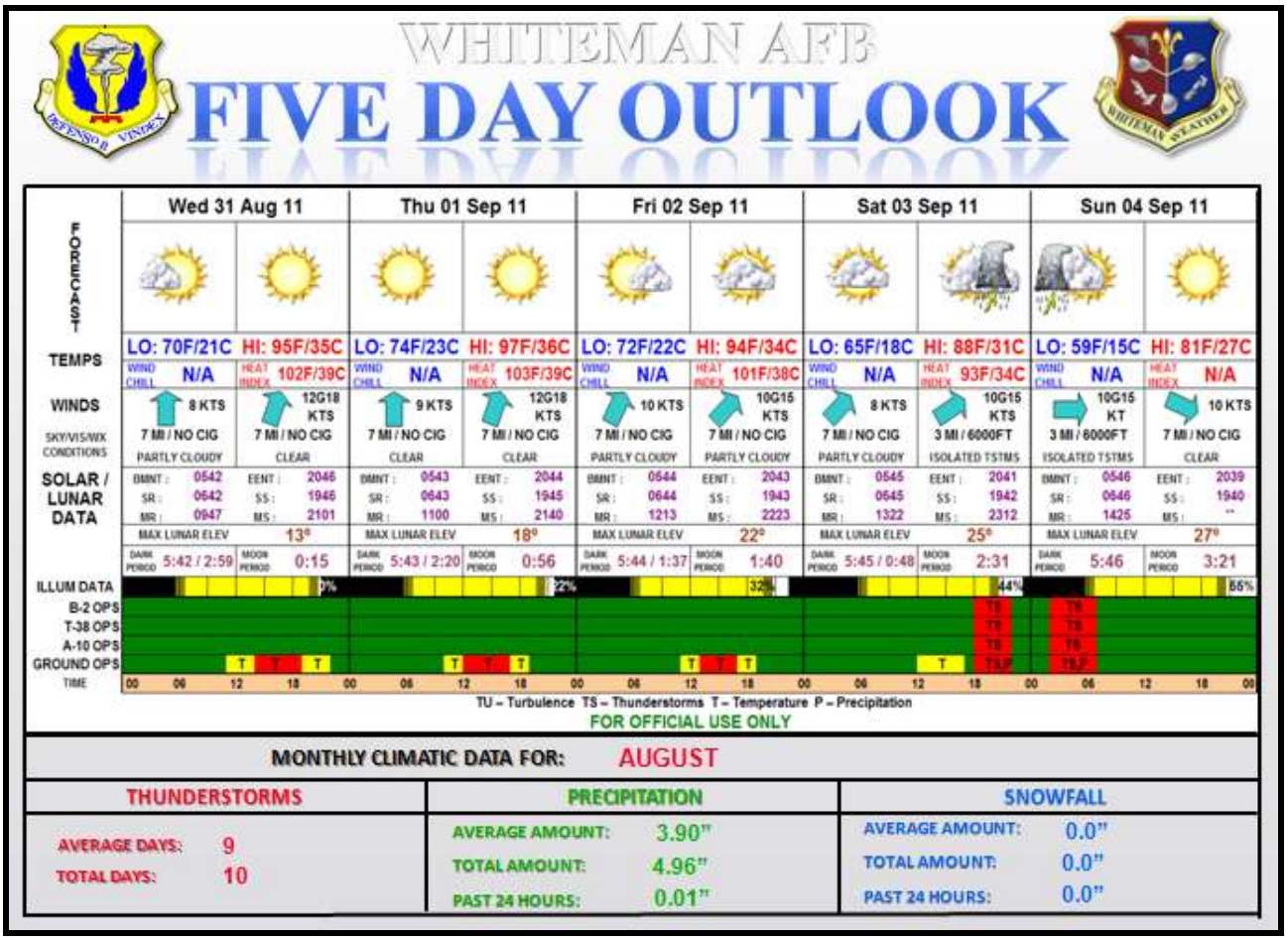
THIS MEF IS FOR PLANNING PURPOSES ONLY. PLEASE CALL FOR UPDATES: 7-3061/3062															
DATE	16-Mar-09	509 OSS WEATHER FLIGHT								FORECASTER	ISSUE TIME				
VALID PERIOD	11Z-05Z (06L-24L)	TOMORROW'S WEATHER MEF								MR SADOVSKY	10/1300				
	Time	Status	Operational Weather limiter								REMARKS				
KSZL	11Z-17Z		SCT050 7 NSW LGT-MDT TURBC SFC-100												
	17Z-05Z		SCT050 SCT100 7 NSW												
>3000/3--NEG HZD			ALT: >300/1-<3000/3--LGT ICG--MDT TURB-->25KT XWND A/R: TS < 1/2 CVRG-->LGT TURB-->LGT ICG							ALT: <300/1-->MDT ICG-->SVR TURB--TS--XWND >30KT A/R: TS >1/2 CVRG-->MDT TURB-->MDT ICG						
AIR REFUELING FORECASTS											REMARKS				
AR TRACK	11Z	13Z	15Z	17Z	19Z	21Z	23Z	01Z	03Z	05Z					
110	LGT TURBC														
309				LGT TURBC											
330				LGT TURBC											
318						LGT TURBC									
RANGE FORECAST											REMARKS				
UTTR															
SMOKEY								TS WEST 1/2							
WHITEMAN LAUNCH/RECOVERY DATA															
TIME	06L	07L	08L	09L	10L	11L	12L	13L	14L	15L	16L	18L	20L	22L	24L
TEMP	23	24	26	28	30	31	33	34	36	37	35	33	30	28	26
DEW POINT	12	13	14	15	16	17	18	18	18	19	19	19	18	18	18
FCST ERT	70	70	70	80	80	80	60	60	100	100	60	60	70	70	60
ALSTG	3042	3043	3044	3045	3047	3049	3051	3052	3053	3054	3055	3058	3060	3062	3064
PA	397	388	378	369	350	331	312	302	293	283	274	245	226	207	188
WINDS	36008	36008	36008	36008	36008	36008	36008	36008	36008	36008	36008	01008	01008	01008	01008
SUNRISE	0731L	SUNSET		1918L	CONS	500-625		FZ LVL	SFC	-20 LVL	190	FL240	25095	FL390	250115

ATTACHMENT 13

5-DAY FORECAST WITH IMPACTS EXAMPLE

A13.1. 5-Day Forecast with Impacts Example.

Figure A13.1. 5-Day Forecast with Impacts Example.



ATTACHMENT 14

FLYING MEF EXAMPLE

A14.1. Flying MEF Example.

Figure A14.1. Flying MEF Example.

WHITEMAN AIR FORCE BASE FLYING MEF

PART I - TAKEOFF DATA

1. DATE	2. ACFT TYPE/NO	3. DEP PT/ETD	4. RWY TEMP (F/C)	5. DEW POINT (F/C)	6. VIS (SM)	7. WEATHER	8. RUN TIME
10 Mar 09	B-2 / DEATH 11	KSZL / 17:00Z	62 / 17	50 / 10	7	NSW	NONE

9. SFC WIND	10. SKY CON	11. MIN ALSTG	12. PA	13. CONTRAILS	14. FZ LVL	15. -20 LVL	16. RSC / RCR
29015KT M	OVC010	2974	+1041	340-670	100	220	N/A

17. LOCAL WEATHER WATCH / WARNING ADVISORY AND/OR RMKS

LGT RIME ICG 100-220. LGT TURBC 010-060 EXPECTED FOR TAKEOFF

PART II ENROUTE & MISSION DATA

18. CLIMB WINDS

SFC-100:	24040KT
100-200:	23075KT
200-300:	24095KT
300-400:	250105KT

19. SPACE WEATHER

	NO IMPACT	MARGINAL	SEVERE
HF	X		
UHF	X		
GPS	X		

20. SOLAR / LUNAR DATA FOR WHITEMAN AFB

SUNRISE	0733L	MOONRISE	1911L
SUNSET	1917L	MOONSET	11/0704L
		ILLUMINATION	100%

27. THUNDERSTORMS

CHART 26OVWS 10/12Z-18Z

NONE	X	AREA	LINE
X ISOLATED 1-2%			MT350
FEW/3-15%			
SCATTERED 16-45%			
NUMEROUS - MORE THAN 45%			

HAIL, SEVERE TURBULENCE & ICING, HEAVY PRECIPITATION, LIGHTNING & WIND SHEAR EXPECTED IN AND NEAR THUNDERSTORMS

LOCATION: E MO

28. TURBULENCE

CHART 26OVWS 10/12Z-18Z

NONE	X	IN CLR	IN CLD
LIGHT		X	
MODERATE		X	
SEVERE			
EXTREME			

LEVELS: ***SEE ATTACHED***

LOCATION: ***SEE ATTACHED***

29. ICING

CHART 26OVWS 10/12Z-18Z

NONE	X	RME	MXD	CLEAR
TRACE				
LIGHT	X			
MODERATE				
SEVERE				

LEVELS: ***SEE ATTACHED***

LOCATION: ***SEE ATTACHED***

30. PRECIPITATION

CHART

X NONE	DZ	RA	SN	PL
LIGHT				
MODERATE				
HEAVY				
SHOWERS				
FREEZING				

LOCATION: N/A

31. AIR / RANGE FORECASTS

	CLOUDS	VIS	WINDS	HAZARDS
AR TRACK: 110E VALID TIME: 19:50Z-22:05Z FLT LVL: 260	SCT220-300	7 OC / 1 IC	24085KT	NEG

PART III - AERODROME FORECAST

32. LOCATION	33. VALID TIME	34. SFC WIND	35. VSBY/WEA	36. CLOUD LAYERS	37. ALTIMETER	38. RWY TEMP (F/C)	39. PRES ALT
DEST KSZL	22:00Z TO 00:00Z	34020G30 M	7 / NSW	BKN025 OVC080 LGT RIME ICG 080-220	2996 INS	51 / 11	+832 FT
ALTN KTIK	22:00Z TO 00:00Z	36015G25 T	7 / NSW	SCT100	2996 INS	51 / 11	+1255 FT

PART IV - COMMENTS/REMARKS

40. BRIEFED RSC/RCR		NOT AVAILABLE	41. PMSV	42. ATTACHMENTS	X	YES		NO
	X		344.6					

43. REMARKS

LGT TURBC 010-060 EXPECTED FOR LANDING

FOR ANY WEATHER UPDATES CALL DSN 975-3061

Barksdale AFB DSN: 312-781-4775

PART V - BRIEFING RECORD

44. WEATHER BRIEFED TIME	45. FLIMSY BRIEFING NO.	46. FORECASTER'S INITIALS	47. NAME OF PERSON RECEIVING BRIEFING
1415 Z		RR	
48. VOID TIME	**49. EXTENDED TO/INITIALS**	**50. VIX REBRIEF TIME/INITIALS**	**51. VIX DEBRIEF TIME/INITIALS**
Z	Z	Z	Z

ATTACHMENT 15

AIRFIELD OPERATING MEF EXAMPLE

A15.1. Airfield Operating MEF Example.

Figure A15.1. Airfield Operating MEF Example.

Issued: Thursday October 15 2009 At 10:59L Next MEF will be issued: Thursday October 15 2009 At 18:59L

Sunrise: 0710L	Moonrise: 1731L	GPS Error: GOOD	FZ LEVEL: 130FT
Sunset: 1857L	Moonset: 0434L	UHF Error: GOOD	-20 LEVEL: 240FT
PMSV: 344.6	Illum: 96%	HF Error: GOOD	ISSUED BY: AT

Whiteman Tabular Forecast, valid from: 15/20Z - 16/07Z

Times	20Z	21Z	22Z	23Z	00Z	01Z	02Z	03Z	04Z	05Z	06Z	07Z
Winds	15015G22KT	18025G40KT	18025G40KT	18025G40KT	18025G40KT	18025G40KT	19015G22KT	24015G20KT	24015G20KT	24015G20KT	28012G18KT	28012G18KT
Visibility	7SM	4SM	4SM	4SM	4SM	4SM	4SM	7SM	7SM	7SM	7SM	7SM
Weather	VCTS	TSRA	TSRA	TSRA	TSRA	TSRA	-SHRA VCTS	VCTS	VCTS	VCTS	34SW	34SW
Sky Con	BKN030CB	BKN025CB	BKN030CB	BKN030CB	BKN030CB	BKN025CB	BKN025CB	OVC030CB	OVC030CB	OVC030CB	BKN050	BKN050
Icing	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	LGT RME ICG 130-200	NO ICG	NO ICG
Turbulance	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090	MOD CLR OCNL TURB 000-090
WS Conds												
ALSTG	2971Inc	2970Inc	2969Inc	2968Inc	2967Inc	2966Inc	2965Inc	2963Inc	2963Inc	2965Inc	2967Inc	2970Inc
PA	1070FT	1079FT	1088FT	1098FT	1108FT	1117FT	1126FT	1126FT	1126FT	1126FT	1108FT	1079FT
Temp	59F 15C	60F 16C	61F 16C	62F 17C	64F 18C	66F 19C	68F 20C	69F 21C	70F 21C	70F 21C	69F 21C	63F 18C
Dew PT	57F 14C	58F 14C	59F 15C	60F 16C	61F 16C	62F 17C	61F 16C	60F 16C	59F 15C	57F 14C	54F 13C	54F 12C
Run Time	None	None	None	None	None	None	None	None	None	None	None	None

Range And MOA Forecasts

Names	TRUMAN		CANNON		SMOKEY	
Times	20Z-02Z	02Z-08Z	20Z-02Z	02Z-08Z	20Z-02Z	02Z-08Z
Clouds	BKN V OVC 025-400CB	BKN V OVC 020-450CB	SCT025-050 BKN V OVC100-300	BKN V OVC 015-450CB	SCT025-050 BKN V OVC100-300	BKN V OVC 015-450CB
Vis / WX	3 OC 1/2 IC / TSRA	3 OC 1/2 IC / TSRA	3 OC 1/2 IC / TSRA	3 OC 1/2 IC / TSRA	3 OC 1/2 IC / TSRA	3 OC 1/2 IC / TSRA
Winds	SFC-100: 20033KT 100-200: 23038KT 200-300: 23045KT 300-400: 26038KT	SFC-100: 28038KT 100-200: 23045KT 200-300: 23073KT 300-400: 23075KT	SFC-100: 20033KT 100-200: 23040KT 200-300: 27030KT 300-400: 27075KT	SFC-100: 20040KT 100-200: 23045KT 200-300: 26045KT 300-400: 27080KT	SFC-100: 20033KT 100-300: 23040KT 200-300: 27030KT 300-400: 27075KT	SFC-100: 20040KT 100-200: 23045KT 200-300: 26045KT 300-400: 27080KT
Hazards	ISOLD TS MT400 LOT RIME ICG130-240 LOT OCNL MDT TURB SFC-100 MDT TURB 180-450	ISOLD TS MT450 LOT RIME ICG130-240 LOT OCNL MDT TURB SFC-100 MDT TURB 180-450	ISOLD TS MT400 LOT RIME ICG130-240 LOT OCNL MDT TURB SFC-100 MDT TURB 180-450	ISOLD TS MT450 LOT RIME ICG130-240 LOT OCNL MDT TURB SFC-100 MDT TURB 180-450	ISOLD TS MT400 LOT RIME ICG130-340 LOT OCNL MDT TURB SFC-100 MDT TURB 180-450	ISOLD TS MT450 LOT RIME ICG130-240 LOT OCNL MDT TURB SFC-100 MDT TURB 180-450
Contrails	274-341	290-341	274-341	290-341	274-341	290-341

ATTACHMENT 16

TACTICAL DECISION AID EXAMPLE

A16.1. Tactical Decision Aid (TDA) Example.

Figure A16.1. Tactical Decision Aid (TDA) Example.